CHINA PETROLEUM & CHEMICAL CORP
Form 20-F
April 24, 2017
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

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FORM 20-F
(Mark One)
REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (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, 2016
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 TRANSACTION PERIOD FORM ____________ TO __________
COMMISSION FILE NUMBER 1-15138

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CHINA PETROLEUM & CHEMICAL CORPORATION
(Exact name of Registrant as specified in its charter)

____

The People's Republic of China
(Jurisdiction of incorporation or organization)

____

22 Chaoyangmen North Street
Chaoyang District, Beijing, 100728
The People's Republic of China
(Address of principal executive offices)

____

Mr. Huang Wensheng
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(Name, Telephone, Email and/or Facsimile number and Address of Company Contact Person)
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Securities registered or to be registered pursuant to Section 12 (b) of the Act.

Title of Each Class	Name of Each Exchange On Which Registered
American Depositary Shares, each representing 100 H Shares of par value RMB 1.00 per share	New York Stock Exchange, Inc.
H Shares of par value RMB 1.00 per share	New York Stock Exchange, Inc.*

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

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.

H Shares, par value RMB 1.00 per share	25,513,438,600
A Shares, par value RMB 1.00 per share	95,557,771,046

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes X No__
If this report 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 X
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) of 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 X No__
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files)*
Yes__ No__
*This requirement does not apply to the registrant in respect of this filing.
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer X 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 _X_ 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__

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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 X
(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)
Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Section 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__
*This requirement does not apply to the registrant in respect of this filing.

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CERTAIN TERMS AND CONVENTIONS

Definitions

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

- "Sinopec Corp.", "we", "our" and "us" are to China Petroleum & Chemical Corporation, a PRC joint stock limited company, and its subsidiaries;
- "Sinopec Group Company" are to our controlling shareholder, China Petrochemical Corporation, a PRC limited liability company;
- "Sinopec Group" are to the Sinopec Group Company and its subsidiaries other than Sinopec Corp. and its subsidiaries;
- "provinces" are to provinces and to provincial-level autonomous regions and municipalities in China which are directly under the supervision of the central PRC government;
- "RMB" are to Renminbi, the currency of the PRC;
- "HK$" are to Hong Kong dollar, the currency of the Hong Kong Special Administrative Region of the PRC; and
- "US$" are to US dollars, the currency of the United States of America.

Conversion Conventions

Unless otherwise specified, conversion of crude oil from tonnes to barrels are made at a rate of one tonne to 7.10 barrels for crude oil we produced domestically and one tonne to 7.22, 7.21 and 7.20 barrels for the years ended December 31, 2014, 2015 and 2016, respectively for crude oil we produced overseas. Conversions of natural gas from cubic meters to cubic feet are made at a rate of one cubic meter to 35.31 cubic feet; and 6,000 cubic feet of natural gas is converted to one BOE.

Glossary of Technical Terms

Unless otherwise indicated in the context, references to:

- "BOE" are to barrels-of-oil equivalent.
- "primary distillation capacity" are to the crude oil throughput capacity of a refinery's crude oil distillation units, calculated by estimating the number of days in a year that such crude oil distillation units are expected to operate, excluding downtime for regular maintenance, and multiplying that number by the amount equal to the units' optimal daily crude oil throughput.
- "rated capacity" are to the output capacity of a given production unit or, where appropriate, the throughput capacity, calculated by estimating the number of days in a year that such production unit is expected to operate, excluding downtime for regular maintenance, and multiplying that number by an amount equal to the unit's optimal daily output or throughput, as the case may be.

CURRENCIES AND EXCHANGE RATES

We publish our financial statements in Renminbi. Unless otherwise indicated, all translations from Renminbi to US dollars were made at the averages of mid-point exchange rates of Renminbi as published by the PRC State Administration of Foreign Exchange (SAFE) for the past five years.

The following table sets forth the noon buying rate for US dollars in Renminbi for the periods indicated, as provided by the H.10 statistical release of the U.S. Federal Reserve Board. We do not represent that Renminbi or US dollar amounts could be converted into US dollars or Renminbi, as the case may be, at any particular rate, the rates below or at all. On April 17, 2017, the noon buying rate was RMB 6.8835 to US$1.00.

	Noon Buying Rate(1)			
Period	End	Average(2)	High	Low
	(RMB per US$1.00)			
2012	6.2301	6.2990	6.3879	6.2221
2013	6.0537	6.1412	6.2438	6.0537
2014	6.2046	6.1704	6.2591	6.0402
2015	6.4778	6.2869	6.4896	6.1870
2016	6.9430	6.6549	6.9580	6.4480
October 2016	6.7735	6.7303	6.7819	6.6685
November 2016	6.8837	6.8402	6.9195	6.7534
December 2016	6.9430	6.9198	6.9580	6.8771
January 2017	6.8768	6.8907	6.9575	6.8360
February 2017	6.8665	6.8694	6.8821	6.8517
March 2017	6.8832	6.8940	6.9132	6.8687
April 2017 (through April 17, 2017)	6.8835	6.8899	6.8988	6.8832

(1) The exchange rates reflect those set forth in the H.10 statistical release of the U.S. Federal Reserve Board.

(2) Annual averages are determined by averaging the rates on the last business day of each month during the relevant period. Monthly averages are calculated using the average of the daily rates during the relevant period.

FORWARD-LOOKING STATEMENTS

This annual report includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this annual report that address activities, events or developments which we expect or anticipate will or may occur in the future are hereby identified as forward-looking statements for the purpose of the safe harbor provided by Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. The words such as believe, intend, expect, anticipate, project, estimate, predict, plan and similar expressions are also intended to identify forward-looking statements. These forward-looking statements address, among others, such issues as:

- amount and nature of future exploration and development,
- future prices of and demand for our products,
- future earnings and cash flow,
- development projects and drilling prospects,
- future plans and capital expenditures,
- estimates of proved oil and gas reserves,
- exploration prospects and reserves potential,
- expansion and other development trends of the petroleum and petrochemical industry,
- production forecasts of oil and gas,
- expected production or processing capacities, including expected rated capacities and primary distillation capacities, of units or facilities not yet in operation,
- expansion and growth of our business and operations, and
- our prospective operational and financial information.

These statements are based on assumptions and analyses made by us in light of our experience and perception of historical trends, current conditions and expected future developments, as well as other factors we believe are appropriate in particular circumstances. However, whether actual results and developments will meet our expectations and predictions depends on a number of risks and uncertainties which could cause actual results to differ materially from our expectations, including the risks set forth in “Item 3. Key Information ¾ Risk Factors” and the following:

- fluctuations in crude oil and natural gas prices,
- fluctuations in prices of our refined oil and chemical products,
- failures or delays in achieving production from development projects,
- potential acquisitions and other business opportunities,
- general economic, market and business conditions, and
- other risks and factors beyond our control.

Consequently, all of the forward-looking statements made in this annual report are qualified by these cautionary statements and readers are cautioned not to place undue reliance on these forward-looking statements. These forward-looking statements should be considered in light of the various important factors set forth above and elsewhere in this Form 20-F. In addition, we cannot assure you that the actual results or developments anticipated by us will be realized or, even if substantially realized, that they will have the expected effect on us or our business or operations.

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISORS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. SELECTED FINANCIAL DATA

The selected consolidated statement of income data (except per ADS data) and consolidated cash flows data for the years ended December 31, 2014, 2015 and 2016, and the selected consolidated balance sheet data as of December 31, 2015 and 2016 are derived from, and should be read in conjunction with, the audited consolidated financial statements included elsewhere in this annual report. The selected consolidated statement of income data (except per ADS data) and consolidated cash flows data for the years ended December 31, 2012 and 2013 and the selected consolidated balance sheet data as of December 31, 2012, 2013 and 2014 are derived from our audited consolidated financial statements which are not included elsewhere in this annual report.

Moreover, the selected financial data should be read in conjunction with our consolidated financial statements and "Item 5. Operating and Financial Review and Prospects" included elsewhere in this annual report. Our consolidated financial statements are prepared and presented in accordance with International Financial Reporting Standards, or IFRS, as issued by the International Accounting Standards Board.

	Year Ended December 31,				
	2012	2013	2014	2015	2016
	(RMB in millions, except per share, per ADS data and number of shares)				
Consolidated Statement of Income Data[(1)]:					
Operating revenues	2,787,684	2,881,928	2,827,566	2,020,375	1,930,911
Operating expenses	(2,689,080)	(2,785,165)	(2,754,127)	(1,963,553)	(1,853,718)
Operating income	98,604	96,763	73,439	56,822	77,193
Earnings before income tax	91,012	95,444	65,818	56,411	80,151
Tax expense	(23,846)	(24,763)	(17,571)	(12,613)	(20,707)
Net income attributable to equity shareholders of the Company	64,082	66,348	46,639	32,512	46,672
Basic earnings per share[(2)]	0.568	0.571	0.399	0.269	0.385
Basic earnings per ADS[(2)]	56.78	57.14	39.92	26.90	38.55
Diluted earnings per share[(2)]	0.546	0.536	0.399	0.269	0.385
Diluted earnings per ADS[(2)]	54.63	53.59	39.89	26.90	38.55
Cash dividends declared per share	0.231	0.240	0.200	0.150	0.249
Segment Operating Income/(Loss)					
Exploration and production	70,054	54,793	47,057	(17,418)	(36,641)
Refining	(11,444)	8,599	(1,954)	20,959	56,265
	42,652	35,143	29,449	28,855	32,153

Marketing and distribution					
Chemicals	1,120	846	(2,229)	19,476	20,623
Corporate and others	(2,443)	(3,412)	(1,063)	384	3,212
Elimination of inter-segment sales	(1,335)	794	2,179	4,566	1,581
Operating income	98,604	96,763	73,439	56,822	77,193
Shares					
Basic weighted average number of A and H shares	112,853,724,741	116,102,910,373	116,822,487,451	120,852,547,200	121,071,209,646
Diluted weighted average number of A and H shares	118,412,133,133	121,858,818,276	117,242,396,710	120,852,547,200	121,071,209,646

	As of December 31,				
	2012	2013	2014	2015	2016
	(RMB in millions)				
Consolidated Balance Sheet Data[(1)]:					
Cash and cash equivalents	12,124	16,336	10,526	68,933	124,468
Total current assets	366,961	374,578	361,559	333,657	412,261
Total non-current assets	895,761	1,012,703	1,094,035	1,113,611	1,086,348
Total assets	1,262,722	1,387,281	1,455,594	1,447,268	1,498,609
Total current liabilities	(513,704)	(572,018)	(604,451)	(462,832)	(485,543)

	As of December 31,				
	2012	2013	2014	2015	2016
	(RMB in millions)				
Short-term debts and loans from Sinopec Group Company and its affiliates (including current portion of long-term debts)	(115,982)	(163,870)	(178,148)	(115,446)	(74,819)
Long-term debts and loans from Sinopec Group Company and its affiliates (excluding current portion of long-term debts)	(162,116)	(145,590)	(150,932)	(139,746)	(117,446)
Total equity attributable to equity shareholders of the Company	(513,315)	(571,087)	(595,255)	(676,197)	(710,994)
Total equity	(552,401)	(625,778)	(649,603)	(788,161)	(831,235)

	Year Ended December 31				
	2012	2013	2014	2015	2016
	(RMB in millions)				
Statement of Cash Flow and Other Financial Data[(1)]:					
Net cash generated from operating activities	142,622	151,470	148,019	165,740	214,543
Net cash generated from/(used in) financing activities	5,272	31,146	(21,524)	9,093	(93,047)
Net cash used in investing activities	(161,792)	(178,322)	(132,321)	(116,719)	(66,217)
Capital expenditure					
Exploration and production	79,071	105,311	80,196	54,710	32,187
Refining	32,161	26,064	27,957	15,132	14,347
Marketing and distribution	31,723	29,486	26,989	22,115	18,493
Chemicals	23,692	19,263	15,944	17,634	8,849
Corporate and others	2,397	5,076	3,648	2,821	2,580
Total	169,044	185,200	154,734	112,412	76,456

(1) The acquisition of 55% equity interest of Shanghai Gaoqiao Petrochemical Co., Ltd. ("Gaoqiao") in 2016 from Sinopec Group Company were considered as "combination of entities under common control" and accounted in a manner of predecessor value accounting. Accordingly, the acquired assets and liabilities have been accounted for at historical cost and the consolidated financial statements for periods prior to the combinations have been restated to include the financial condition and results of operation of these acquired business on a combined basis. The financial condition and results of operation of Gaoqiao are presented in Note 1 to the consolidated financial statements.

(2) Basic earnings per share have been computed by dividing net income attributable to equity shareholders of our company by the weighted average number of shares in issue. Basic and diluted earnings per ADS have been computed as if all of our issued and authorized ordinary shares, including domestic shares and H shares, are represented by ADSs during each of the years presented. Each ADS represents 100 shares. The weighted average number of shares for the years prior to January 1, 2013 has been retrospectively adjusted as a result of the issuance of bonus shares and re-capitalization in 2013, and accordingly, the basic earnings and diluted earnings per share have been adjusted retrospectively.

B. CAPITALIZATION AND INDEBTEDNESS

Not applicable.

C. REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

D. RISK FACTORS

Risks Relating to Our Business Operation

We are exposed to risks associated with price fluctuations of crude oil and refined oil products and petrochemical products.

We consume a large amount of crude oil to produce our refined oil products and petrochemical products. Increases in crude oil prices may result in cost inflation, and high prices may also reduce demand for our products which might adversely affect our profitability. Decreases in prices of crude oil, refined oil products and petrochemical products may cause us to incur impairment to our investment and assets. A prolonged period of low oil prices may impact our profit and ability to maintain our long-term investment projects. In addition, while we try to adjust the sale prices of our products to reflect international crude oil price fluctuations, our ability to pass on the increased cost resulting from crude oil price increases to our customers may be limited, and is dependent on international and domestic market conditions as well as the PRC government's price control policies over refined oil products. For instance, the PRC government could exercise price control over refined oil products when international crude oil prices experience a sustained rise or become significantly volatile. As a result, our results of operations and financial condition may be materially affected by the fluctuation of prices of crude oil, refined oil products and petrochemical products.

Our continued business success depends in part on our ability to replace reserves and develop newly discovered reserves.

Our ability to achieve our growth objectives is dependent in part on our level of success in discovering or acquiring additional oil and natural gas reserves. Our exploration and development activities for additional reserves also expose us to inherent risks associated with drilling, including the risk that no proved oil or natural gas reservoirs might be discovered. Exploring for, developing and acquiring reserves is highly risky and capital intensive. The fluctuation in the prices of crude oil and natural gas will impact the amount of our proved oil or natural gas reserves. In the low oil price environment, only large scale, high quality reserves meet our development criteria. Some exploration projects are not viable at the current crude oil price level and cannot be carried forward, potentially leading to failure in supplementing our oil and natural gas reserves with additional reserves through future exploration. Without reserve additions through further exploration and development or acquisition activities, or if the prices of crude oil and natural gas fall sharply, our reserves and production will decline over time, which may materially and adversely affect our results of operations and financial condition.

We rely heavily on outside suppliers for crude oil and other raw materials, and we may even experience disruption of our ability to obtain crude oil and other raw materials.

We purchase a significant portion of crude oil and other feedstock from outside suppliers located in different countries and regions in the world, of which an insignificant amount of the crude oil processed by our refinery business was sourced from countries or regions that are on the sanction list published and administered by the Office of Foreign Assets Control, or OFAC, of the US Department of Treasury, including Iran and Sudan. In addition, our business growth requires us to source an increasing amount of crude oil from outside suppliers. While we purposely source our crude oil from a diversified portfolio of outside suppliers to avoid any potential disruptions to our normal business operations, we are subject to the political, geographical and economic risks associated with these countries and areas. If our contractual relationships with one or more outside suppliers were terminated or disrupted due to any natural disasters or political events, it is possible that we would not be able to find sufficient alternative sources of supply in a timely manner or on commercially reasonable terms. As a result, our business and financial condition would be materially and adversely affected.

Our business faces operation risks and natural disasters that may cause significant property damages, personal injuries and interruption of operations, and we may not have sufficient insurance coverage for all the financial losses incurred by us.

Exploring for, producing and transporting crude oil and natural gas and producing and transporting refined oil products and petrochemical products involves a number of operating hazards. Our operations are subject to significant hazards and risks inherent in refining operations and in transporting and storing crude oil, intermediate products, refined oil products and chemical products. These hazards and risks include, but are not limited to, natural disasters, fires, explosions, pipeline ruptures and spills, third-party interference and mechanical failure of equipment at our or third-party facilities, any of which could result in production and distribution difficulties and disruptions, environmental pollution, personal injury or wrongful death claims and other damage to our properties and the property of others. There is also risk of mechanical failure and equipment shutdowns both in general and following unforeseen events. In certain situations, undamaged refinery processing units may be dependent on or interact with damaged process units and, accordingly, are also subject to being shut down. Even though we have a strong institutional focus on the safety of our operations and have implemented health, safety and environment (HSE) management system within our company with the view to preventing accidents, and reducing personal injuries, property losses and environment pollution, our preventative measures may not be effective. We also maintain insurance coverage on our property, plant, equipment, inventory and potential third party liability, but our insurance coverage may not be sufficient to cover all the financial losses caused by the operation risks and natural disasters. Significant operating hazards and natural disasters may cause interruption to our operations, property or environmental damages as well as personal injuries, and each of these incidents could have a material adverse effect on our financial condition and results of operations.

The oil and natural gas reserves data in this annual report are only estimates, and our actual production, revenues and expenditures with respect to our reserves may differ materially from these estimates.

There are numerous uncertainties inherent in estimating quantities of proved oil and natural gas reserves, and in the timing of development expenditures and the projection of future rates of production. Adverse changes in economic conditions, such as a prolonged period of low oil prices, may render it uneconomical to develop certain reserves and lead to

downward revisions in our reserves. Our actual production, revenues, taxes and fees payable and development and operating expenditures with respect to our reserves may likely vary from these estimates.
The reliability of reserves estimates depends on:
· the quality and quantity of technical and economic data;
· the prevailing oil and gas prices applicable to our production;
· the production performance of the reservoirs; and
· extensive engineering judgments.
In addition, new drilling, testing and production results following the estimates may cause substantial upward or downward revisions in the estimates.
Oilfield exploration and drilling involves numerous risks, including risks that no commercially productive crude oil or natural gas reserves can be discovered and risks of failure to acquire or retain reserves.
Our oil and gas business is currently involved in exploration activities in various regions, including in some areas where natural conditions may be challenging and where the costs of such exploration activities may be high. As a result, our oil and gas business may incur cost overruns or may be required to curtail, delay or cancel drilling operations because of many factors, including, but not limited to, the following:
· unexpected drilling conditions;
· pressure or irregularities in geological formations;
· equipment failures or accidents;
· oil well blowouts;
· adverse weather conditions or natural disasters;
· compliance with existing or enhanced environmental regulations;
· governmental requirements and standards; or
· delays in the availability of drilling rigs and delivery and maintenance of equipment.
The future production of our oil and gas business depends significantly upon our success in finding or acquiring additional reserves and retaining and developing such reserves. If our oil and gas business fails to conduct successful exploration activities or to acquire or retain assets holding proved reserves, it may not meet its production or growth targets, and its proved reserves will decline as it extracts crude oil and natural gas from the existing reservoirs, which could adversely affect our business, financial condition and results of operations.
We have been actively pursuing business opportunities outside China to supplement our domestic resources. However, there can be no assurance that we can successfully locate sufficient alternative sources of crude oil supply or at all 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 adversely affected.
Our exploration, development and production activities and our refining and petrochemical business require substantial expenditure and investments and our plans for and ability to make such expenditures and investments are subject to various risks.
Exploring, developing and producing crude oil and natural gas fields are capital-intensive activities involving a high degree of risk. Our ability to undertake exploration, development and production activities and make the necessary capital expenditures and investments is subject to many risks, contingencies and other uncertainties, which may prevent our oil and gas business from achieving the desired results, or which may significantly increase the expenditures and investments that our oil and gas business makes, including, but not limited to, the following:

- ability to generate sufficient cash flows from operations to finance its expenditures, investments and other requirements, which are affected by changes in crude oil and natural gas prices and sales volumes, and other factors;
- availability and terms of external financing;
- mix of exploration and development activities conducted on an independent basis and those conducted jointly with other partners;
- extent to which its ability to influence or adjust plans for exploration and development related expenditures is limited under joint operating agreements for those projects in which it has partners;
- government approvals required for exploration and development-related expenditures and investments in jurisdictions in which it conducts business; and
- economic, political and other conditions in jurisdictions in which it conducts business.

From time to time, we may construct new and/or revamp existing refining and petrochemical facilities, which require substantial capital expenditures and investments. There can be no assurance 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. Our inability to obtain sufficient funding for development plans could adversely affect our business, financial condition and results of operations.

Our development projects and production activities involve many uncertainties and operating risks that can prevent us from realizing profits and cause substantial losses.

Our development projects and production activities may be curtailed, delayed or cancelled for many reasons, including equipment shortages or failures, natural hazards, unexpected drilling conditions or reservoir characteristics, pressure or irregularities in geological formations, accidents, mechanical and technical difficulties and industrial action. These projects and activities, which include projects focused on non-conventional oil and gas exploration and development, will also often require the use of new and advanced technologies that may be expensive to develop, purchase and implement, and may not function as expected. There is a risk that any development projects that we undertake may not yield adequate returns. In addition, our development projects and production activities, particularly those in remote areas, could become less profitable, or unprofitable, if we experience a prolonged period of low oil or gas prices or cost overruns.

Our business may be adversely affected by actions and regulations prompted by global climate changes.

As many nations in the world have reached consensus on the importance and urgency of addressing climate change, the oil and gas industry in which we operate is drawing increasing concerns about global climate change in recent years. A number of international, national and regional measures to limit greenhouse gas emissions have been enacted. The Paris Agreement on climate change adopted by 195 nations in December 2015 has placed binding commitments on nations that have ratified it since November 2016, which may lead to more stringent national and regional measures in the near future. It could result in our substantial capital expenditure from compliance with these measures, and our revenue generation and strategic growth opportunities could also be adversely impacted. In addition, China has undertaken to peak the CO2 emissions by 2030 or earlier, if possible, and to increase the non-fossil fuel share of all energy to around 20 percent by 2030. China has also announced to implement a national emissions trading scheme in 2017. We are expected to be recognized as an emission-control enterprise as are most of the Chinese enterprises, which could have adverse effect on our business, financial condition and results of operations.

Our overseas businesses may be adversely affected by changes of overseas government policies and business environment.

We have operations and assets and may seek new opportunities in various countries and regions, including countries in Africa, South America and Central Asia and certain other regions, some of which are deemed to be subject to a high degree of political risk. These countries have experienced and/or may experience in future political instability, changes to the regulatory environment, changes in taxation and foreign exchange controls, disease outbreaks, deterioration in social security and environmental risks. Any of these conditions occurring could disrupt or curtail our operations or development activities. These events may also cause our production to decline, limit our ability to pursue new opportunities, affect the recoverability of our assets or cause us to incur additional costs, particularly due to the long-term nature of many of our projects and the significant capital expenditure required.

We may be classified as a passive foreign investment company for United States federal income tax purposes, which could result in adverse United States federal income tax consequences to United States investors in the H shares or ADSs.

Depending upon the value of our assets, which may be determined based, in part, on the market price of our H shares or ADSs, and the nature of our assets and income over time, we could be classified as a passive foreign investment company, or PFIC, for United States federal income tax purposes. Based on our income and assets and the market price of our H shares or ADSs, we do not believe that we were a PFIC for the taxable year ended December 31, 2016 and do not anticipate becoming a PFIC or in the foreseeable future. Because PFIC status is a factual determination made annually after the close of each taxable year on the basis of the composition of our income and the value of our active versus passive assets for that year, there can be no assurance that we will not be a PFIC for any future taxable year. The overall level of our passive assets will be affected by how, and how quickly, we spend our liquid assets. Under circumstances where gross income from activities that produce passive income significantly increase relative to our gross income from activities that produce non-passive income or where we determine not to deploy significant amounts of cash for active purposes, our risk of becoming classified as a PFIC may substantially increase. If we were to be or become classified as a PFIC, a US Holder (as defined in "Item 10. Additional Information – E. Taxation – United States Federal Income Tax Considerations") may incur significantly increased United States income tax on gain recognized on the sale or other disposition of the H shares or ADSs and on the receipt of distributions on the H shares or ADSs to the extent such gain or distribution is treated as an "excess distribution" under the United States federal income tax rules. For more information see "Item 10. Additional Information – E. Taxation— United States Federal Income Tax Considerations."

Risks Relating to Our Industry

Our operations may be adversely affected by the global and domestic economic conditions.

Our results of operations are materially affected by economic conditions in China and elsewhere around the world. Although nations around the world have adopted various economic policies to mitigate the negative influences caused by factors such as the slowdown of world economic development, it is uncertain how soon the world economy can be fully recovered. The Chinese economy has entered the "new normal" stage with more moderate economic growth. Our operations may also be adversely affected by factors such as foreign countries' trade protection policies and regional trade agreements which may adversely affect our export and import activities.

Our operations may be adversely affected by the cyclical nature of the market.

Most of our revenues are attributable to sales of refined oil products and petrochemical products, and certain of these businesses and related products have historically been cyclical and sensitive to a number of factors that are beyond our control. These factors include the availability and prices of feedstock and general economic conditions, such as changes in industry capacity and output levels, cyclical changes in regional and global economic conditions, prices and availability of substitute products and fluctuation in prices and demands of natural gas, refined oil products and chemical products. Although we are an integrated company with upstream, midstream and downstream businesses, we have limited ability to mitigate the adverse influence of the cyclicality of global markets.

We face strong competition from domestic and foreign competitors.

Among our competitors, some are major integrated petroleum and petrochemical companies within and outside China, which have recently become more significant participants in the petroleum and petrochemical industry in China. The PRC government has gradually eased the restrictions on the right to use imported crude oil and relaxed control over the right to import refined oil products. This development may lead to refining overcapacity in China and intensify competition among local refineries. The relaxation of import control may drive up cost of crude oil imports and reduce the prices of refined oil products, thus adversely impact our refining margin. The Chinese crude oil and refined oil product markets are becoming increasingly dynamic and internationalized with implementation of tariff concessions and relaxation of market access as part of China's commitment for its accession to the WTO. In the wholesale market of refined oil products previously dominated by PetroChina and us, we are facing stronger competition with new players and imported products entering the market. Our market share of chemical products is also under stronger competitive pressure due to the increasingly active participation of diversified new market players including multinational petroleum and petrochemical companies and domestic private enterprises. In addition, we also expect to face competition in both domestic and international petrochemical product market as a result of our domestic and international competitors' increasing production capacity. Increased competition may have a material adverse effect on our financial condition and results of operations.

Risks Relating to Our Controlling Shareholder

We engage in related party transactions with Sinopec Group from time to time which may create potential conflict of interest.

We have engaged from time to time and will continue to engage in a variety of transactions with Sinopec Group, which provides us with a number of services, including, but not limited to, ancillary supply, engineering, maintenance, transport, lease of land use right, lease of buildings, as well as educational and community services. The nature of our transactions with Sinopec Group is governed by a number of service and other contracts between Sinopec Group and us. We have established various schemes in those agreements so that these transactions, when entered into, are under terms that are at arm's length. However, we cannot assure you that Sinopec Group Company or any of its members would not take actions that may favor its interests or its other subsidiaries' interests over ours.

We are controlled by Sinopec Group Company, our ultimate controlling shareholder, whose interest in certain businesses compete or are likely to compete with our business.

Sinopec Group Company has interests in certain businesses, such as oil refining, petrochemical producing and overseas exploration and development, which compete or are likely to compete, either directly or indirectly, with our businesses. To avoid the adverse effects brought by the competition between us and Sinopec Group Company to the maximum extent possible, we and Sinopec Group Company have entered into a non-competition agreement. In 2012, we received from Sinopec Group Company an undertaking to avoid its competition with us. For details, please refer to the descriptions under "Item 7. Major Shareholders and Related Party Transactions – A. Major Shareholders". Notwithstanding the foregoing contractual arrangements, because Sinopec Group Company is our controlling shareholder, Sinopec Group Company may take actions that may conflict with our own interests.

It is possible that the current or future activities of our ultimate controlling shareholder, Sinopec Group Company, or its affiliates in or with certain countries that are the subject of economic sanctions under relevant U.S. laws could result in negative media and investor attention to us and possible imposition of sanctions on Sinopec Group Company, which could materially and adversely affect our shareholders' value and operations.

Sinopec Group Company undertakes, from time to time and without our involvement, overseas investments and operations in the oil and gas industry, including exploration and production of oil and gas, refining and Liquefied Natural Gas or LNG, oilfield services and refining engineering projects. Sinopec Group Company's overseas asset portfolio includes a limited number of projects in countries that are subject to U.S. sanctions administrated by OFAC and by the U.S. Department of State. In 2015, we acquired a 10% shareholding stake in PAO SIBUR Holding (Sibur Holding). Starting from 2014, OFAC imposed economic sanctions against Russia focusing on trading activities involving certain Russian financial and energy entities. We currently do not believe that our investment in Sibur Holding will result in any direct sanctions imposed by OFAC. However, events in or relating to Russia, including further trade restrictions and other sanctions, could adversely impact our investment in Russia. In addition, the United States may expand its sanctions regime to include other countries or regions where Sinopec Group Company or its affiliates, including us, may have assets or operations, or may unilaterally reinstate its sanction regime in Iran, where most U.S. secondary sanctions (i.e., those covering non-U.S. persons) have been suspended since January 16, 2016 pursuant to the terms of the Joint Comprehensive Plan of Action (the JCPOA), in the event of a dispute over Iran's compliance with its nuclear commitments under the JCPOA. We cannot predict the interpretation or implementation of government policy at the U.S. federal, state or local levels with respect to any current or future activities by Sinopec Group Company or its affiliates, including us, in countries or with individuals or entities that are the subject of U.S. sanctions. Similarly, we cannot predict whether U.S. sanctions will be further tightened or reinstated in the case of

Iran, or the impact that such actions may have on Sinopec Group Company and us. Certain U.S. state and local governments and colleges have restrictions on the investment of public funds or endowment funds, respectively, in companies that are members of corporate groups with activities in certain countries that are the subject of U.S. sanctions. These investors may not wish to invest, and may divest their investment, in us

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because of our relationship with Sinopec Group Company and its investments and activities in those OFAC sanctioned countries. It is possible that, as a result of activities by Sinopec Group Company or its affiliates in countries that are the subject of U.S. sanctions, we may be subject to negative media or investor attention, which may distract management, consume internal resources and affect investors' perception of our company. Furthermore, if the most extreme sanction measures under U.S. sanctions laws were applied to the properties of Sinopec Group Company and its controlled subsidiaries, Sinopec Group Company could be prohibited from engaging in business activities in the United States or with U.S. individuals or entities, and U.S. transactions in our securities and distributions to U.S. individuals and entities with respect to our securities could also be prohibited.

Risks Relating to the PRC

Government regulations may limit our activities and affect our business operations.

The PRC government, though gradually liberalizing its regulations on entry into the petroleum and petrochemical industry, continues to exercise certain controls over the petroleum and petrochemical industry in China. These control mechanisms include granting the licenses to explore and produce crude oil and natural gas, granting the licenses to market and distribute crude oil and refined oil products, regulating the upper limit of the retail prices for gasoline and diesel; collecting special oil income levies, deciding import and export quotas and procedures, setting safety, environmental and quality standards, and formulating policies to save energy and reduce emission; meanwhile, there could be potential changes to macroeconomic and industry policies such as reforming of the oil and gas industry, further improvement of pricing mechanism of refined oil products, reforming and improvement of pricing mechanism of natural gas, and reforming in resource tax and environmental tax, which could impact our production and operations. Such control mechanisms may have material effects on our operations and profitability.

The PRC governmental authorities, from time to time, audit or inspect our ultimate controlling shareholder. We cannot predict the impact if any, of their outcome on our reputation, business and financial condition as well as the trading prices of our ADSs and H shares.

The PRC governmental authorities, from time to time, perform audits, inspections, inquiries or similar actions on state-owned companies, such as Sinopec Group Company, our ultimate controlling shareholder. Such inspections are not conducted on a regular basis with specific targets, and therefore we cannot predict the outcome of these governmental activities. If, as a result of such audits, inspections or inquiries, (i) material irregularities are found within Sinopec Group Company or us or our employees or (ii) Sinopec Group Company or we become the target of any negative publicity, our reputation, business and financial condition as well as the trading prices of our ADSs and H shares may be materially and negatively impacted.

Our business operations may be adversely affected by present or future environmental regulations.

As an integrated petroleum and petrochemical company, we are subject to extensive environmental protection laws and regulations in China. These laws and regulations permit:

- the imposition of pollution charge for the discharge of waste substances;
- the levy of fines and payments for damages for serious environmental offenses;
- the government, at its discretion, to seal up or close down any facility which has cause or may cause environmental damage and require it to correct or stop operations causing environmental damage; and
- litigations and liabilities arising from pollutions and damages to the environment and public interests.

Our production activities produce substantial amounts of liquid, gas and solid waste materials. We have established a system to treat waste materials to prevent and reduce pollution. However, the PRC government has moved, and may move further, toward more rigorous enforcement of applicable laws, and toward the adoption of more stringent environmental standards, which, in turn, would require us to incur additional expenditures on environmental matters. In recent years, we have commenced exploration and production of unconventional oil and gas resources, such as shale oil and gas and coal bed methane, through the application of relatively advanced and expensive technologies. As a result, our unconventional oil and gas operations are subject to the limitations of unproven technology and expose us to higher environmental compliance standards and requirements. In the event of any failure to comply with such standards and requirements, we may be subject to public concerns about our unconventional oil and gas operations, which may also harm our corporate reputation.

Some of our development plans require compliance with state policies and governmental regulation.

We are currently engaged in a number of construction, renovation and expansion projects. Some of our large construction, renovation and expansion projects are subject to governmental confirmation and registration. The timing and cost of completion of these projects will depend on numerous factors, including when we can receive the required confirmation and registration from relevant PRC government authorities and the general economic condition in China. If any of our key projects required for our future growth are not confirmed or registered, or not confirmed or registered in a timely manner, our results of operations and financial condition could be adversely impacted.

Government control of currency conversion and exchange rate fluctuation may adversely affect our operations and financial results.

We receive a significant majority of our revenues in Renminbi. A portion of such revenues will need to be converted into other currencies to meet our foreign currency needs, which include, among other things:

- import of crude oil and other materials;
- debt service on foreign currency-denominated debt;
- purchases of imported equipment;
- payment of the principals and interests of bonds issued overseas; and
- payment of any cash dividends declared in respect of the H shares (including ADS).

The existing foreign exchange regulations have significantly reduced government foreign exchange controls for transactions under the current account, including trade and service related foreign exchange transactions and payment of dividends. Foreign exchange transactions under the capital account, including principal payments in respect of foreign currency-denominated obligations, continue to be subject to significant foreign exchange controls and require the approval of the State Administration of Foreign Exchange. These limitations could affect our ability to obtain foreign exchange through debt or equity financing, or to obtain foreign exchange. The PRC government has stated publicly that it intends to make the Renminbi freely convertible in the future. However, we cannot predict whether the PRC government will continue its existing foreign exchange policy and when the PRC government will allow free conversion of Renminbi.

The exchange rate of the Renminbi against the U.S. dollar and other foreign currencies fluctuates and is affected by, among other things, the changes in the PRC's and international political and economic conditions. On July 21, 2005, the PRC government introduced 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. On June 19, 2010 and August 11, 2015, respectively, the People's Bank of China (PBOC) decided to further promote the reform of exchange rate regime and enhance the flexibility of Renminbi exchange rate. Most of our crude oil purchases are settled in foreign currencies calculated on the basis of prices in U.S. dollar. Fluctuations in the exchange rate of the Renminbi against the U.S. dollars and certain other foreign currencies may adversely affect our oil and gas business, financial condition and results of operations. Meanwhile, prices of refined oil products are guided by the PRC Government and are pegged to the exchange rate of the Renminbi against the U.S. dollar. Therefore the impact of Renminbi exchange rate fluctuation on the purchase cost of crude oil could largely be offset by the corresponding fluctuation in the prices of domestic refined oil products and chemical products.

Risks relating to enforcement of shareholder rights; Mandatory arbitration.

Currently, the primary sources of shareholder rights are our articles of association, the PRC Company Law and the Listing Rules of the Hong Kong Stock Exchange, which, among other things, impose certain standards of conduct, fairness and disclosure on us, our directors and our controlling shareholder. In general, their provisions for protection of shareholder's rights and access to information are different from those applicable to companies incorporated in the United States, the United Kingdom and other Western countries. In addition, the mechanism for enforcement of rights under the corporate framework to which we are subject may also be relatively undeveloped and untested. To our knowledge, there has not been any published report of judicial enforcement in the PRC by H share shareholders of their rights under constituent documents of joint stock limited companies or the PRC Company Law or in the application or interpretation of

the PRC or Hong Kong regulatory provisions applicable to PRC joint stock limited companies. We cannot guarantee that our shareholders will enjoy protections that they may be entitled in other jurisdictions.

China does not have treaties providing for the reciprocal recognition and enforcement of judgments of courts with the United States, the United Kingdom or most other Western countries, and therefore recognition and enforcement in China of judgments of a court in any of these jurisdictions in relation to any matter not subject to a binding arbitration provision may not be assured. Our articles of association as well as the Listing Rules of the Hong Kong Stock Exchange provide that most disputes between holders of H shares and us, our directors, supervisors, officers or holders of domestic shares, arising out of the articles of association or the PRC Company Law concerning the affairs of our company, are to be resolved through arbitration, at the election of the claimant, by arbitration organizations in Hong Kong or the PRC, rather than through a court of law. On June 18, 1999, an arrangement was made between Hong Kong and the PRC for the mutual enforcement of arbitral awards. This new arrangement was approved by the Supreme People's Court of the PRC and the Hong Kong Legislative Council, and became effective on February 1, 2000. We are uncertain as to the outcome of any action brought in China to enforce an arbitral award granted to shareholders.

Our auditor, like other independent registered public accounting firms operating in China, is not permitted to be subject to inspection by Public Company Accounting Oversight Board, and as such, investors may be deprived of the benefits of such inspection.

Our independent registered public accounting firm that issues the audit reports included in our annual reports filed with the SEC, as an auditor of companies that are traded publicly in the United States and a firm registered with the Public Company Accounting Oversight Board, or PCAOB, is required by the laws of the United States to undergo regular inspections by PCAOB to assess its compliance with the laws of the United States and professional standards. Because our auditor is located in China, a jurisdiction where PCAOB is currently unable to conduct inspections without the approval of the PRC authorities, our auditor, like other independent registered public accounting firms, is currently not inspected by PCAOB.

Inspections of other firms that PCAOB has conducted outside of China have identified deficiencies in those firms' audit procedures and quality control procedures, which may be addressed as part of the inspection process to improve future audit quality. The lack of PCAOB inspections in China may prevent PCAOB from regularly evaluating our auditor's audits and quality control procedures. The inability of PCAOB to conduct inspections of auditors in China makes it more difficult to evaluate the effectiveness of our auditor's audit procedures or quality control procedures. As a result, investors may be deprived of the benefits of PCAOB inspections.

Additional remedial measures imposed on certain PRC-based accounting firms, including our independent registered public accounting firm, in proceedings brought by the SEC alleging the firms' failure to meet specific criteria, could result in financial statements being determined to not be in compliance with the requirements of the Exchange Act.

In December 2012, the SEC brought administrative proceedings against the "Big Four" accounting firms in China, including our independent registered public accounting firm, alleging that these firms had refused to produce audit work papers and other documents related to certain other China-based companies whose securities are publicly traded in the United States. On January 22, 2014, an initial administrative law decision was issued, censuring these accounting firms and barring these firms from practicing before the SEC for a period of six months. The decision is neither final nor legally effective unless and until it is endorsed by the SEC. In February 2015, each of the four PRC-based accounting firms agreed to a censure and to pay a fine to the SEC to settle the dispute and avoid suspension of their ability to practice before the SEC. The settlement requires the firms to follow detailed procedures to seek to provide the SEC with access to Chinese firms' audit documents via the China Securities Regulatory Commission (CSRC) in response to future document requests by the SEC made through the CSRC. If the firms fail to comply with the documentation production procedures that set forth in the settlement agreement or if these required information fails to be provided to the SEC by the CSRC for reasons out of these firms' control, the SEC could impose penalties such as suspensions, or it could restart the administrative proceedings.

In the event that the SEC restarts the administrative proceedings, depending upon the final outcome, listed companies in the United States with major PRC operations may find it difficult or impossible to retain auditors in respect of their operations in the PRC, which could result in financial statements being determined to not be in compliance with the requirements of the Exchange Act, including possible delisting. Moreover, any negative news about the proceedings against these audit firms may cause investor uncertainty regarding China-based, United States-listed companies and the market price of our ADSs may be adversely affected.

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If our independent registered public accounting firm was denied, even temporarily, the ability to practice before the SEC and we were unable to timely find another registered public accounting firm to audit and issue an opinion on our financial statements, our financial statements could be determined not to be in compliance with the requirements of the Exchange Act. Such a determination could ultimately lead to the delay or abandonment of this offering, delisting of our ADSs from the New York Stock Exchange (NYSE) or deregistration from the SEC, or both, which would substantially reduce or effectively terminate the trading of our ADSs in the United States.

ITEM 4. INFORMATION ON THE COMPANY

A. HISTORY AND DEVELOPMENT OF THE COMPANY

Our legal and commercial name is China Petroleum & Chemical Corporation. Our head office is located at 22 Chaoyangmen North Street, Chaoyang District, Beijing 100728, the People’s Republic of China, our telephone number is (8610) 5996-0028 and our fax number is (8610) 5996-0386. We have appointed our representative office in the United States, located at 515 Madison Avenue, Suite 27 West, New York, NY 10022, USA (telephone number: (212) 759-5085; fax number: (212) 759-6882) as our agent for service of processes for actions brought under the U.S. securities laws.

We were established as a joint stock limited company on February 25, 2000 under the Company Law of the PRC with Sinopec Group Company as the sole shareholder at our inception. Our principal businesses consist of petroleum and petrochemical businesses transferred to us by Sinopec Group Company pursuant to a reorganization agreement. Such businesses include:

- exploration for, development, production and marketing of crude oil and natural gas;
- refining of crude oil and marketing and distribution of refined oil products, including transportation, storage, trading, import and export of petroleum products; and
- production and sales of petrochemical products.

Sinopec Group’s continuing activities primarily consist, among other things, of:

- exploring and developing oil and gas reserves overseas;
- operating certain petrochemical facilities;
- providing geophysical exploration, and well drilling, survey, logging and downhole operational services;
- manufacturing production equipment and providing equipment maintenance services;
- providing construction services;
- providing utilities, such as electricity and water; and
- providing other operational services including transportation services.

Sinopec Group Company transferred the businesses to us either by transferring its equity holdings in subsidiaries or by transferring their assets and liabilities. Sinopec Group Company also agreed in the reorganization agreement to transfer to us its exploration and production licenses and all rights and obligations under the agreements in connection with its core businesses transferred to us. The employees relating to these assets were also transferred to us.

On February 19, 2014, our board of directors unanimously approved a proposal to restructure our marketing and distribution business and to diversify the ownership of this segment by way of introducing private capital investments. In April 2014, our ownership, management and control of the assets in the marketing and distribution segment have been transferred to Sinopec Marketing Co., Ltd., one of our wholly owned subsidiaries. On September 12, 2014, Sinopec Marketing Co., Ltd. entered into a capital injection agreement with 25 domestic and foreign investors, pursuant to which the investors will subscribe for certain equity interest in Sinopec Marketing Co., Ltd. As of March 6, 2015, the 25 investors have made an aggregate capital contribution of RMB 105.04 billion, representing 29.58% equity interest in Sinopec Marketing Co., Ltd.

On September 12, 2014, in connection with our plan to spin off Sinopec Yizheng Chemical Fibre Company Limited (Yizheng Chemical), in which we originally owned 40.25% equity interest, we entered into a disposal agreement and a share repurchase agreement with Yizheng Chemical, pursuant to which Yizheng Chemical agreed to transfer to us all of its assets and liabilities. As consideration, our 40.25% equity interest in Yizheng Chemical was repurchased and cancelled by Yizheng Chemical. Subsequently, through a series of inter-group company restructuring steps, Yizheng Chemical was spun off from us in December 2014.

On October 30, 2014, Sinopec Overseas Investment Holdings Limited (SOI) and Sinopec Chemical Commercial Holdings Company Limited (SCC), two of our wholly-owned subsidiaries, entered into acquisition agreements with two subsidiaries of Sinopec Group Company, pursuant to which SOI and SCC acquired 99% and 1% membership interests in Sinopec Century Bright Capital Investment (Netherlands) Cooperation U.A. (COOP), respectively, from the two subsidiaries of Sinopec Group Company with an aggregate consideration of US$562 million. Upon completion of the acquisition, we indirectly held 100% interest in COOP, which holds 37.5% interest in Yanbu Aramco Sinopec Refining Company (YASREF) Limited (YASREF). The remaining 62.5% interest in YASREF is held by Saudi Arabian Oil Company. YASREF is mainly engaged in the production and sale of gasoline and diesel oil, petroleum coke and sulfur, benzene and other products in Saudi Abrabia and has a designed processing capability of 3,890 thousand barrels per day.

On July 8, 2015, Sinopec Group Company informed us that it planned to increase its shareholding in the Company in the next twelve-month period through acquisitions of our ordinary shares on the secondary market in its own name or through other concerting parties, but its increased shareholding in the Company would not exceed 2% (inclusive of the shares acquired on July 8, 2015) of our issued and outstanding shares. As of July 7, 2016, Sinopec Group Company had increased its shareholding in the Company by way of acquiring 72,000,000 A shares, representing approximately 0.06% of our issued and outstanding shares. Immediately following the shareholding increase, Sinopec Group Company directly and indirectly held 86,345,821,101 shares of the Company, representing approximately 71.32% of our issued and outstanding shares.

On October 29, 2015, we entered into a joint venture agreement with Sinopec Assets Management Co., Ltd. (“SAMC”), a wholly-owned subsidiary of Sinopec Group Company, in relation to the formation of Sinopec Shanghai Gaoqiao Petrochemical Co., Ltd. (“Gaoqiao”). We and SAMC subscribed for 55% and 45% of the registered capital of Gaoqiao, respectively, and Gaoqiao became a subsidiary of the Company.

On August 2, 2016, our board of directors unanimously approved the proposal to introduce capitals from potential investors to invest in Sichuan-to-East China gas pipeline project, through our indirectly wholly-owned subsidiary Sinopec Sichuan-to-East China Natural Gas Pipeline Co., Ltd. (“Sichuan-to-East China Pipeline Co.”). On December 12, 2016, China Life Insurance Co., Ltd. (“China Life”) and SDIC Communications Holding Co., Ltd. (“SDIC Communications”) entered into the Capital Injection Agreement in relation to Sichuan-to-East China Pipeline Co. and agreed to collectively subscribe for 50% equity interest in Sichuan-to-East China Pipeline Co. for an aggregate amount of RMB 22.8 billion in cash. Upon completion of the capital injection, China Life, SDIC Communications and us hold 43.86%, 6.14% and 50% equity interest in Sichuan-to-East China Pipeline Co., respectively.

B. BUSINESS OVERVIEW

Exploration and Production

Overview

We currently explore for, develop and produce crude oil and natural gas in a number of areas in China and overseas. As of December 31, 2016, we held 211 production licenses in China, with an aggregate acreage of 28,436 square kilometers and with terms ranging from 10 to 80 years. Our production licenses may be renewed upon our application at least 30 days prior to the expiration date, which are renewable for unlimited times. During the term of our production license, we pay an annual production license fee of RMB 1,000 per square kilometer.

As of December 31, 2016, we held 236 exploration licenses in China for various blocks in which we engaged in exploration activities, with an aggregate acreage of approximately 742,600 square kilometers and with the maximum term of seven years. Our exploration licenses may be renewed upon our application at least 30 days prior to the expiration date, with each renewal for a maximum two-year term. We are obligated to make an annual minimum exploration investment in each of the exploration blocks which we obtained the exploration licenses. We are also obligated to pay an annual exploration license fee ranging from RMB 100 to RMB 500 per square kilometer. Under the PRC laws and regulations, however, we are entitled for reduction and exemption of exploration license fee for exploration in the western region, northeast region and offshore of China.

As of December 31, 2016, our overseas subsidiary held one production license, with an acreage of 323 square kilometers. It currently does not have exploration licenses. Our overseas equity-accounted investments held 71 production licenses, with an aggregate acreage of 4,546 square kilometers, and one exploration license.

Properties

We currently operate 295 oil and gas producing fields and blocks.

Shengli production field is our most important crude oil production field. It consists of 75 producing blocks of various sizes extending over an area of 2,549 square kilometers in northern Shandong province, all of which are our net developed acreage. Most of Shengli's blocks are located in the Jiyang trough with various oil producing layers. In 2016, Shengli production field produced 169 million barrels of crude oil and 14.26 billion cubic feet of natural gas, with an average daily production of 470.16 thousand BOE.

As of December 31, 2016, the total acreage of our oil and gas producing fields and blocks in China was 13,927 square kilometers, including 8,479 square kilometers of developed acreage, all of which were net developed acreage; and 5,448 square kilometers of gross undeveloped acreage, all of which were net undeveloped acreage.

As of December 31, 2016, the total acreage of our oil and gas producing fields and blocks of our overseas subsidiary was 323 square kilometers, including 169 square kilometers of developed acreage, of which 169 square kilometers were net developed acreage; and 153 square kilometers of gross undeveloped acreage, of which 153 square kilometers were net undeveloped acreage.

As of December 31, 2016, the total acreage of our oil and gas producing fields and blocks of our overseas equity-accounted investments was 1,690 square kilometers, including 1,582 square kilometers of developed acreage, of which 765 square kilometers were net developed acreage; and 108 square kilometers of gross undeveloped acreage, of which 54 square kilometers were net undeveloped acreage.

Oil and Natural Gas Reserves

As of December 31, 2016, our estimated proved reserves of crude oil and natural gas in China were 2,410 million BOE (including 1,216 million barrels of crude oil and 7,160 billion cubic feet of natural gas), and our estimated proved reserves of crude oil and natural gas outside of China, which included a share of the estimated proved reserves of our equity-accounted investments, were 339 million BOE. Our estimated proved reserves do not include additional quantities recoverable beyond the term of the relevant production licenses, or that may result from extensions of currently proved areas, or from application of improved recovery processes not yet tested and determined to be economical.

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

Crude Oil Proved Reserves	As of December 31, 2016 (in millions of barrels)
Developed	
Subsidiaries	
China	
Shengli	801
Others	279
Overseas	40
Subtotal	1,120
Equity-accounted investments	
China	-
Overseas	273
Subtotal	273

Total Developed	1,393
Undeveloped	
Subsidiaries	
China	
Shengli	37
Others	99

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Overseas	-
Subtotal	136
Equity-accounted investments	
China	-
Overseas	23
Subtotal	23
Total Undeveloped	159
Total Oil Proved Reserves	1,552

Natural Gas Proved Reserves	As of December 31, 2016 (in billions of cubic feet)
Developed	
Subsidiaries	
China	
Puguang	2,330
Fuling	1,226
Others	2,880
Overseas	-
Subtotal	6,436
Equity-accounted investments	
China	-
Overseas	18
Subtotal	18
Total Developed	6,454
Undeveloped	
Subsidiaries	
China	
Puguang	-
Fuling	-
Others	724
Overseas	-
Subtotal	724
Equity-accounted investments	
China	-
Overseas	-
Subtotal	-
Total Undeveloped	724
Total Natural Gas Proved Reserves	7,178

As of December 31, 2016, approximately 159 million barrels of our crude oil proved reserves and 724 billion cubic feet of our natural gas proved reserves were classified as proved undeveloped reserves in China and overseas. An insignificant amount of crude oil or natural gas proved reserves in China have been classified as proved undeveloped for more than five years.

During 2016, a total of 621 wells were drilled by us in China and 99 wells were drilled overseas. We converted 71 million barrels of proved undeveloped crude oil reserves and 358 billion cubic feet of proved undeveloped natural gas reserves into proved developed reserves in 2016. Total capital expenditure incurred in converting proved undeveloped reserves into proved developed reserves amounted to RMB 8.6 billion, including RMB 8.2 billion and RMB 0.4 billion incurred in connection with our operations in China and overseas, respectively, in 2016.

We manage our reserves estimation through a two-tier management system. The Oil and Natural Gas Reserves Management Committee, or the RMC, at our headquarters level oversees the overall reserves estimation process and reviews the reserves estimation of our company. Each of our Branches has a reserves committee that manages the reserves estimation process and reviews the reserves estimation report at the branches level.

Our RMC is co-led by several of our senior vice presidents and the head of our exploration and production segment. The current chairman of our RMC, Mr. Wang Zhigang, holds a Ph.D. degree in geology from Geology and Geo-physics Research Institute of the China Academy of Science and has over 30 years of experience in the oil and gas industry.

The rest of the members of our RMC are all senior management members in charge of exploration and development activities at production bureau level. A majority of our RMC members hold doctor's or master's degrees and our RMC members have an average of 20 years of technical experience in relevant industry fields, such as geology, engineering and economics.

Our reserves estimation is guided by procedural manuals and technical guidance. Initial collection and compilation of reserves information are conducted by different working divisions, including exploration, development and financial divisions, at production bureau level. Exploration and development divisions collectively prepare the initial report on reserves estimation. Together with technical experts, reserves management committees at production bureau level then review to ensure the qualitative and quantitative compliance with technical guidance and accuracy and reasonableness of the reserves estimation. At our headquarters level, the RMC is primarily responsible for the management and coordination of the reserves estimation process, review and approval of annual changes and results in reserves estimation and disclosure of our proved reserves. We also engage outside consultants who assist us to be in compliance with the U.S. Securities and Exchange Commission rules and regulations. Our reserves estimation process is further facilitated by a specialized reserves database which is reviewed and updated periodically.

Oil and Natural Gas Production

In 2016, we produced an average of 1,039 thousand BOE per day in China, of which approximately 66.6% was crude oil and 33.4% was natural gas. We produced an average of 142 thousand BOE per day overseas, of which 97.2% was crude oil and 2.8% was natural gas.

The following tables set forth our average daily production of crude oil and natural gas for the years ended December 31, 2014, 2015 and 2016. The production of crude oil includes condensate.

	Year Ended December 31,		
	2014	2015	2016
	(in thousands of barrels)		
Average Daily Crude Oil Production			
China	852	812	692
Subsidiaries	852	812	692
Shengli	542	527	464
Others	310	285	228
Overseas	137	146	138
Subsidiary	42	54	51
Equity-accounted investments	95	92	87
Total Crude Oil Production	989	958	830

	Year Ended December 31,		
	2014	2015	2016
	(in millions of cubic feet)		
Average Daily Natural Gas Production			
China	1,951	1,952	2,083
Subsidiaries	1,951	1,952	2,083
Puguang	761	530	362
Fuling	105	306	486
Others	1,085	1,116	1,235
Overseas	11	11	10

Equity-accounted investments	11	11	10
Total Natural Gas Production	1,962	1,963	2,093

Lifting Cost & Realized Prices

The following table sets forth our average lifting costs per BOE of crude oil produced, average sales prices per barrel of crude oil and average sales prices per thousand cubic meters of natural gas for the years ended December 31, 2014, 2015 and 2016.

	Weighted Average (RMB)	China	Overseas[1]
For the year ended December 31, 2016			
Average petroleum lifting cost per BOE	108.21	112.19	77.62
Average realized sales price			
Per barrel of crude oil	240.70	246.10	213.41
Per thousand cubic meters of natural gas	1,266.03	1,266.03	-
For the year ended December 31, 2015			
Average petroleum lifting cost per BOE	109.70	111.56	72.20
Average realized sales price			
Per barrel of crude oil	283.72	280.74	316.15
Per thousand cubic meters of natural gas	1,519.83	1,519.83	-
For the year ended December 31, 2014			
Average petroleum lifting cost per BOE	113.10	113.40	105.07
Average realized sales price			
Per barrel of crude oil	554.71	552.73	597.24
Per thousand cubic meters of natural gas	1,598.99	1,598.99	-

1) The exchange rates we used for overseas data in this table were exchange rates for each year ended December 31, 2014, 2015 and 2016, which were RMB 6.1428 to US$1.00, RMB 6.2284 to US$1.00 and RMB 6.6400 to US$ 1.00, respectively.

Exploration and Development Activities

In the low oil price environment in 2016, we prioritized high-efficiency exploration activities. We continued our efforts in exploration activities and led to a number of new discoveries of oil resources in Tahe of Xinjiang, Beibu Gulf of Guangxi and Yin'e Basin of Inner Mongolia, and of shale gas resource in Yongchuan area of Sichuan Basin. With respect to development activities, we focused on increasing efficiency and effectiveness by adjusting our development structures, reducing our inefficient crude oil production and high cost activities. We significantly advanced the construction of the second phase of our Fuling shale gas project to improve the production volume, which has reached an annual production volume of 247.2 billion cubic feet in 2016.

The following table sets forth the numbers of our exploratory and development wells, including a breakdown of productive wells and dry wells we drilled during the years ended December 31, 2014, 2015 and 2016.

	As of December 31,											
	2014				2015				2016			
Number of Drilled Wells	Exploratory		Development		Exploratory		Development		Exploratory		Development	
	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry
China	334	187	3,641	56	373	195	1,801	25	266	149	801	6
Subsidiaries	334	187	3,641	56	373	195	1,801	25	266	149	801	6
Shengli	141	64	2,027	30	150	73	1,020	18	166	73	462	5
Others	193	123	1,614	26	223	122	781	7	100	76	339	1
Overseas	3	-	323	-	-	1	149	1	2	1	99	-
Subsidiaries	-	-	6	-	-	-	5	-	-	-	-	-
Equity-accounted investments	3	-	317	-	-	1	144	1	2	1	99	-
Total	337	187	3,964	56	373	196	1,950	26	268	150	900	6

The following table sets forth the number of wells being drilled by us as of December 31, 2016, as compared to December 31, 2015:

	As of December 31,							
	2015				2016			
Number of Drilling Welling	Gross		Net		Gross		Net	
	Exploratory	Development	Exploratory	Development	Exploratory	Development	Exploratory	Development
China	110	152	110	152	78	138	78	138
Subsidiaries	110	152	110	152	78	138	78	138
Shengli	35	23	35	23	28	21	28	21
Others	75	129	75	129	50	117	50	117
Overseas	-	3	-	1	-	2	-	2
Subsidiaries	-	-	-	-	-	-	-	-
Equity-accounted investments	-	3	-	1	-	2	-	2
Total	110	155	110	153	78	140	78	140

The following table sets forth our number of productive wells for crude oil and natural gas as of December 31, 2016, as compared to December 31, 2015:

	As of December 31,			
	2015		2016	
Productive Wells for Crude Oil	Gross	Net	Gross	Net
China	49,662	49,662	49,921	49,921
Subsidiaries	49,662	49,662	49,921	49,921
Shengli	31,547	31,547	32,019	32,019
Others	18,115	18,115	17,902	17,902
Overseas	6,913	3,122	7,432	3,614
Subsidiaries	28	15	28	14
Equity-accounted investments	6,885	3,107	7,404	3,600
Total	56,575	52,784	57,353	53,535

	As of December 31,			
	2015		2016	
Productive Wells for Natural Gas	Gross	Net	Gross	Net
China	4,758	4,727	4,966	4,932
Subsidiaries	4,758	4,727	4,966	4,932
Puguang	55	55	57	57
Fuling	175	175	253	253
Others	4,528	4,497	4,656	4,622
Total	4,758	4,727	4,966	4,932

Refining

Overview

In 2016, our refinery throughputs were approximately 236 million tonnes. We produce a full range of refined oil products. The following table sets forth our production of our principal refined oil products for the years ended December 31, 2014, 2015 and 2016.

	Year Ended December 31,		
	2014	2015	2016
	(in million tonnes)		
Gasoline	51.22	53.98	56.36
Diesel	74.26	70.05	67.34
Kerosene and jet fuel	20.75	24.35	25.47

Light chemical feedstock	39.17	38.81	38.54
Liquefied petroleum gas	11.25	11.58	12.12
Fuel oil	2.48	1.48	0.94

Gasoline and diesel are our largest revenue-generating products, and are sold mostly through our marketing and distribution segment through both wholesale and retail channels. We use most of our production of chemical feedstock as feedstock for our own chemical operations. Most of our other refined oil products were sold in China to a wide variety of industrial and agricultural customers, and a small amount is exported.

Refining Facilities

Currently we operate 32 refineries in China. As of December 31, 2016, our total primary distillation capacity of crude oil was 295 million tonnes per annum.

The following table sets forth our total primary distillation capacity per annum of crude oil and refinery throughputs as of and for the years ended December 31, 2014, 2015 and 2016.

	As of and for the Year Ended December 31,		
	2014	2015	2016
Primary distillation capacity of crude oil (million tonnes per annum)(1)	292.40	293.20	294.7
Refinery throughputs (million tonnes)(2)	235.38	236.49	235.5

Notes:

(1) The primary distillation capacity and refinery throughputs of joint ventures are fully included in our statistics.

(2) When calculating refinery throughputs, conversion from tonnes to barrels are made at a rate of one tonne to 7.35 barrels.

In 2016, measured by the total output from our refineries, our gasoline yield was 22.1%, diesel yield was 26.4%, kerosene yield was 10.0%, and light chemical feedstock yield was 15.1%. Other products include lubricant, liquefied petroleum gas, solvent, asphalt, petroleum coke, paraffin and fuel oil. For the years ended December 31, 2014, 2015 and 2016, our overall yield for all refined oil products at our refineries was 94.66%, 94.75% and 94.70%, respectively.

The following table sets forth the primary distillation capacity per annum as of December 31, 2016 of each of our refineries with the primary distillation capacity of 8 million tonnes or more per annum.

Refinery	Primary Distillation Capacity as of December 31, 2016 (in million tonnes per annum)
Maoming	23.5
Zhenhai	23.0
Jinling	21.0
Shanghai	16.0
Qilu	14.0
Yangzi	14.0
Fujian	14.0
Tianjin	13.8
Guangzhou	13.2
Gaoqiao	13.0
Qingdao	12.0
Changling	11.5
Yanshan	11.0
Shijiazhuang	10.0
Jiujiang	10.0
Hainan	9.2
Luoyang	8.0
Wuhan	8.0

In 2016, our primary distillation capacity of crude oil increased by 1.5 million tonnes per annum. In addition, in 2016, our hydrofining capacity increased by 9.9 million tonnes per annum. The revamping projects for a number of refining facilities to improve refined oil product quality were also completed and put into operation.

Source of crude oil

In 2016, approximately 87.1% of the crude oil required for our refinery business was sourced from international suppliers.

Marketing and Sales of Refined Oil Products

Overview

We operate the largest sales and distribution network for refined oil products in China. In 2016, we distributed and sold approximately 170 million tonnes of gasoline, diesel, jet fuel and kerosene. Most of the refined oil products sold by us are produced internally. In 2016, approximately 71.9% of our gasoline sales volume and approximately 74.0% of our diesel sales volumes were produced internally.

The table below sets forth a summary of key data in the marketing and sales of refined oil products in the years of 2014, 2015 and 2016.

	As of December 31,		
	2014	2015	2016
Total sales volume of refined oil products (in million tonnes)	189.17	189.33	194.84
Domestic sales volume of refined oil products (in million tonnes)	170.97	171.37	172.70
Retail	117.84	119.03	120.14
Wholesale and Distribution	53.13	52.34	52.56
Average annual throughput of service stations (in tonnes per station)	3,858	3,896	3,926

	As of December 31,		
	2014	2015	2016
Total number of service stations under Sinopec brand	30,551	30,560	30,603
Self-operated service stations	30,538	30,547	30,597

Retail

All of our retail sales are made through a network of service stations and petroleum shops operated under the Sinopec brand. Through this unified network we are able to implement consistent pricing policies, maintain both product and service quality standards and more efficiently deploy our retail network.

In 2016, we sold approximately 120.14 million tonnes of gasoline, diesel and kerosene through our retail network, representing approximately 69.6% of our total domestic gasoline, diesel, jet fuel and kerosene sales volume. Our retail network mainly consists of service stations that are wholly-owned and operated by us, and jointly-owned and generally operated or leased by us, all of which are operated under the Sinopec brand. We also franchised the Sinopec brand to third parties services stations. As of December 31, 2016, we had 6 franchised service stations that are owned and operated by third parties. In 2016, the average annual throughput of our service stations increased slightly from 2015, and we have further strengthened our leading position in our principal market, and further improved our brand awareness and customer loyalty.

Wholesale and Distribution

In 2016, we sold approximately 52.56 million tonnes of refined oil products, including 7.23 million tonnes of gasoline, 29.86 million tonnes of diesel and 15.47 million tonnes of kerosene, through wholesale and distribution to independent distributors such as domestic industrial enterprises, hotels, restaurants and agricultural producers and long-term large-scale end users such as railways, airlines, shipping and public utilities.

We operate 367 storage facilities with a total capacity of approximately 16.89 million cubic meters, substantially all of which are wholly-owned by us. These storage facilities and our wholesale centers are connected to our refineries by railway, waterway and pipelines. We also own some dedicated railways, oil wharfs and oil barges, as well as a number of rail tankers and oil trucks.

Chemicals

Overview

We are the largest petrochemicals producer in China. We produce a full range of chemical products including intermediate petrochemicals, synthetic resins, synthetic fiber monomers and polymers, synthetic fibers and synthetic rubber. Synthetic resins, synthetic fibers, synthetic rubber and some intermediate petrochemicals comprise a significant majority of our external sales. Synthetic fiber monomers and polymers and intermediate petrochemicals, on the other hand, are mostly internally consumed as feedstock for the production of other chemical products. Our chemical operations are integrated with our refining businesses, which supply a significant portion of our chemical feedstock such as naphtha. Due to the high demand in China, we sell substantially all of our chemical products in China.

Products

Intermediate Petrochemicals

We are the largest ethylene producer in China. Our rated ethylene capacity as of December 31, 2016 was 10.69 million tonnes per annum. In 2016, we produced 11.06 million tonnes of ethylene. Nearly all of our olefins production is used as feedstock for our petrochemical operations.

We produce aromatics mainly in the forms of benzene and para-xylene, which are used primarily as feedstock for purified terephthalic acid, or PTA, the preferred raw material for polyester. We are the largest aromatics producer in China.

Chemicals extracted from olefins and aromatics are mainly used to produce synthetic resins, synthetic rubber and synthetic fibers, as well as intermediate petrochemicals.

The following table sets forth our rated capacity per annum, production volume and major plants of production as of or for the year ended December 31, 2016 for our principal intermediate chemical products.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Production
Ethylene	10,694	11,059	Yanshan, Shanghai, Yangzi, Qilu, Maoming, Guangzhou, Tianjin, Zhongyuan, SECCO*, BASF-YPC*, Fujian, Zhongsha (Tianjing)*, Zhenhai, Sino-Korean (Wuhan)* and Great Wall EC*
Propylene	9,924	8,988	Yanshan, Shanghai, Yangzi, Qilu, Maoming, Guangzhou, Tianjin, Zhongyuan, SECCO*, BASF-YPC*, Gaoqiao*, Anqing, Jinan, Jingmen, Fujian, Zhongsha (Tianjing)*, Zhenhai, Sino-Korean (Wuhan)* and Great Wall EC*
Benzene	5,363	4,001	Yanshan, Shanghai, Yangzi, Qilu, Guangzhou, Zhenhai, Tianjin, Luoyang, SECCO*, BASF-YPC*, Fujian*, Maoming, Hainan and Sino-Korean (Wuhan)*
Styrene	2,196	2,118	Yanshan, Qilu, Guangzhou, Maoming, SECCO*, Zhenhai and BASF-YPC*
Para-xylene	4,839	4,331	Shanghai, Yangzi, Qilu, Tianjin, Luoyang, Zhenhai, Jinling, Fujian* and Hainan
Phenol	757.5	613	Yanshan, Gaoqiao* and Zhongsha (Tianjin)*

* Joint ventures, of which the production capacities and outputs are fully included in our statistics.

Synthetic Resins

We are the largest producer of polyethylene, polypropylene and polystyrene and supplier of major synthetic resins products in China.

The following table sets forth our rated capacity per annum, production volumes and major plants of production for each of our principal synthetic resins as of or for the year ended December 31, 2016.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Production
Polyethylene	7,190	7,272	Yanshan, Shanghai, Yangzi, Qilu, Maoming, Guangzhou, Tianjin, Zhongyuan, SECCO*, BASF-YPC*, Fujian, Zhongsha (Tianjing)*, Zhenhai, Sino-Korean (Wuhan)* and Great Wall EC*
Polypropylene	7,415	6,489	Yanshan, Shanghai, Yangzi, Qilu, Guangzhou, Maoming, Tianjin, Zhongyuan, SECCO*, Jingmen, Fujian, Zhongsha (Tianjing)*, Zhenhai, Sino-Korean (Wuhan)* and Great Wall EC*
Polyvinyl chloride	600	231	Qilu
Polystyrene	698	588	Yanshan, Qilu, Maoming, Guangzhou, and SECCO*
Acrylonitrile butadiene styrene	200	166	Gaoqiao*

* Joint ventures, of which the production capacities and outputs are fully included in our statistics.

Synthetic Fiber Monomers and Polymers

Our principal synthetic fiber monomers and polymers are purified terephthalic acid, ethylene glycol, acrylonitrile, caprolactam, polyester, polyethylene glycol and polyamide fiber. Based on our 2016 production, we are the largest producer of ethylene glycol and caprolactam in China. Most of our production of synthetic fiber monomers and polymers are used as feedstock for synthetic fibers.

The following table sets forth our rated capacity per annum, our production volume and major plants of production as of or for the year ended December 31, 2016 for each type of our principal synthetic fiber monomers and polymers.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Production
Purified terephthalic acid	3,119	2,494	Shanghai, Yangzi, Yizheng, Tianjin and Luoyang
Ethylene glycol	3,209	2,432	Yanshan, Shanghai, Yangzi, Tianjin, Maoming, BASF-YPC*, Zhongsha (Tianjing)*, Zhenhai
Acrylonitrile	1,070	952	Shanghai, Anqing, Qilu and SECCO*
Caprolactam	709	557	Shijiazhuang and Baling
Polyester	3,378	2,798	Shanghai, Yizheng, Tianjin and Luoyang

* Joint ventures, of which the production capacities and outputs are fully included in our statistics.

Synthetic Fibers

We are the largest producer of acrylic fibers in China. Our principal synthetic fiber products are polyester fiber and acrylic fiber.

The following table sets forth our rated capacity per annum, production volume and major plants of production for each type of our principal synthetic fibers as of or for the year ended December 31, 2016.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Production
Polyester fiber	1,220	1,004	Yizheng, Shanghai, Tianjin and Luoyang
Acrylic fiber	265	233	Shanghai, Anqing and Qilu

Synthetic Rubbers

Our principal synthetic rubbers are cis-polybutadiene rubber, styrene butadiene rubber, or SBR, styrene butadiene-styrene thermoplastic elastomer and isobutadiene isoprene rubber, or IIR. Based on our 2016 production, we are the largest producer of SBR and cis-polybutadiene rubber in China.

The following table sets forth our rated capacity per annum, production volume and major plants of production as of or for the year ended December 31, 2016 for each of our principal synthetic rubbers.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Operation
Cis-polybutadiene rubber	420	359	Yanshan, Qilu, Maoming and Yangzi
Styrene butadiene rubber	430	357	Qilu, Gaoqiao* and Yangzi
Styrene-butadiene-styrene thermoplastic elastomers	140	98	Yanshan and Maoming
Isobutylene isoprene rubber	135	12	Yanshan
Isoprene rubber	30	0	Yanshan
Ethylene propylene rubber	75	30	Gaoqiao*

* Joint ventures, of which the production capacities and outputs are fully included in our statistics.

Marketing and Sales of Petrochemicals

Most of our petrochemicals sales are generated in China. Price and volume of petrochemical sales are primarily market driven. The southern and eastern regions in China, where most of our petrochemical plants are located, constitute the major petrochemical market in China. Our proximity to the major petrochemical market gives us a geographic advantage over our competitors.

Our principal sales and distribution channels consist of (i) direct sales to end-users, most of which are large- and medium-sized manufacturing enterprises, which account for more than 70% of our customers, (ii) sales to distributors, who are responsible for sales and distribution to a portion of our smaller and scattered customers or specific customers, and (iii) sales of chemical products through our e-commerce platform “Chem E-Mall”, which effectively expands our traditional sales channels.

Competition

Refining and Marketing of Refined Oil Products

Market participants compete primarily on the basis of wide-established sales network and logistics system, quality of products and service, efficiency of operations including proximity to customers, awareness of brand name and price. While we constantly face competition from other market participants, we believe that we have a competitive advantage in our principal market against our competitors.

Chemicals

We compete with domestic and foreign chemicals producers in the chemicals market. We believe our proximity to customers has given us significant geographical advantages. Most of our petrochemical production facilities are located in the eastern and southern regions in China, an area which has experienced higher economic growth rates in China in the past thirty years. Proximity of our production facilities to our markets has given us an advantage over our competitors in terms of easy access to our customers, resulting in lower transportation costs, more reliable delivery of products and better service to customers.

Patents and Trademarks

In 2016, we were granted 3,942 patents in China and overseas. As of December 31, 2016, we owned a total of 22,291 patents in China and overseas.

In 2016, we have 391 material trademarks approved internally, among which 241 are registered in China and 150 registered overseas.

Business Operations Relating to Iran Threat Reduction and Syria Human Rights Act of 2012

In 2016, we sourced a small amount of crude oil from Iran, and such amount represented 7.9% of our total refinery throughputs. In addition, we engaged in a small amount of trading activities with an Iranian company which generated us a net profit of approximately US$2.64 million.

Based on feedback to our inquiries to Sinopec Group Company, our controlling shareholder, Sinopec Group Company engaged in a small amount of business activities in Iran such as providing engineering services and designs. Sales revenue from these business activities accounted for 0.0008% of its total unaudited sales revenue.

Since we have performance obligations under our Iran-related contracts, we are contractually required to continue our performance under our Iran-related contracts in 2017.

Regulatory Matters

Overview

China's petroleum and petrochemical industry has seen significant liberalization in the past ten years. However, the exploration, production, marketing and distribution of crude oil and natural gas, as well as the production, marketing and distribution of certain refined oil products are still subject to regulation of many government agencies including:

National Development and Reform Commission (NDRC)

NDRC is responsible for formulating and implementing key policies in respect of petroleum and petrochemical industry, including:

- Formulating guidance plan for annual production, import and export amount of crude oil, natural gas and petroleum products nationwide based on its forecast on macro-economic conditions in China;
- Setting the pricing policy for refined oil products;
- Approving certain domestic and overseas resource investment projects which are subject to NDRC's approval as required by the Catalogue of Investment Projects Approved by the Government in effect; and

National Energy Administration (NEA)

NEA is primarily responsible for the formulation of energy development plans and annual directive plans, approving major energy-related projects and facilitating the implementation of sustainable development of energy strategies, coordinating the development and utilization of renewable energies and new energies, and organizing matters relating to energy conservation and comprehensive utilization as well as environmental protection for the energy industry.

The Ministry of Commerce (MOFCOM)

MOFCOM is responsible for the record-filing of Sino-foreign equity joint venture contracts and Sino-foreign cooperation joint venture contracts, and monitoring the foreign investors' oil and gas exploration projects in the PRC. It is also responsible for approving or filing of the overseas investment by PRC enterprises and issuing the enterprise overseas investment certificate and quotas and licenses for import and export of crude oil and refined oil products.

In November 2010, we were approved by four Ministries including MOFCOM to become one of the first trial enterprises to cooperate with international business partners and develop coal bed methane resources (MOFCOM Circular 984[2010]).

Ministry of Land and Resources (MLR)

The MLR is responsible for issuing the licenses that are required to explore and produce crude oil and natural gas in China.

Regulation of Exploration and Production

Exploration and Production Rights

The PRC Constitution provides that all mineral and oil resources belong to the state. In 1986, the Standing Committee of the National People's Congress passed the Mineral Resources Law which authorizes the Ministry of Land and Resources, or the MLR, to exercise administrative authority over the exploration and production of the mineral and oil resources within the PRC, including its territorial waters. The Mineral Resources Law and its supplementary regulations provide the basic legal framework under which exploration licenses and production licenses are granted. The MLR has the authority to grant exploration licenses and production licenses on a competitive bidding or other basis it considers appropriate. Applicants for these licenses must be companies approved by the State Council to engage in oil and gas exploration and production activities. Currently, we are one of the few companies that have received such exploration licenses and production licenses in oil and gas industry. In addition, pursuant to the Regulation on the Administration of Geological Survey Qualifications promulgated by the State Council, which became effective from July 1, 2008, any entity engaging in geological survey activities shall obtain a geological survey qualification certificate. Oil and natural gas survey qualifications, among others, shall be examined, approved and granted by the MLR.

Applicants for exploration licenses must first submit applications to the MLR with respect to blocks in which they intend to engage in exploration activities. The holder of an exploration license is obligated to make an annual minimum exploration investment and pay annual exploration license fees, ranging from RMB 100 to RMB 500 per square kilometer, relating to the exploration blocks in respect of which the license is issued. The maximum term of an oil and gas exploration license is 7 years. Such exploration license may be renewed upon application by the holder at least 30 days prior to expiration date, with each renewal for a maximum two-year term.

At the exploration stage, an applicant can also apply for a progressive exploration and production license that allows the holder to test and develop reserves not yet fully proved. The progressive oil and gas exploration and production license has a maximum term of 15 years. When the reserves become proved for a block, the holder must apply for a full production license in order to undertake production.

The MLR issues full production licenses to applicants on the basis of the reserve reports approved by relevant authorities. The maximum term of a full production license is 30 years unless a special dispensation is given by the State Council. Due to a special dispensation granted to us by the State Council, the maximum term of our full production licenses is 80 years. The full production license is renewable upon application by the holder at least 30 days prior to expiration of the original term. A holder of the full production license has to pay an annual full production right usage fee of RMB 1,000 per square kilometer.

Exploration and production licenses do not grant the holders the right to enter upon any land for the purpose of exploration and production. Holders of exploration and production licenses must separately obtain the right to use the land covered by the licenses, and if permissible under applicable laws, current owners of the rights to use such land

may transfer or lease the land to the license holder.
Incentives for Shale Gas Development
In order to incentivize the exploration, discovery and development of China's shale gas reserves, to increase the supply of natural gas and to relieve the imbalance between supply and demand of natural gas, the Ministry of Finance of

China and China National Energy Administration issued the Notice on Subsidy for Shale Gas Development and Utilization (Ministry of Finance No. 847 [2012]), pursuant to which the central government will subsidize shale gas production companies at a rate of RMB 0.4 per cubic meter of shale gas produced from 2012 to 2015.
China National Energy Administration issued the Shale Gas Industry Policy (NEA No. 5 [2013]) in October, 2013, which classifies shale gas as a "national strategic new industry" and calls for more fiscal support for exploration and development of shale gas. In particular, subsidies should be given directly to a shale gas production company according to the amount of its shale gas development and utilization. Local governments are also encouraged to provide subsidies to shale gas production companies, with the subsidy amount to be determined by local fiscal authorities. The Policy also reduces or waives compensatory fee for mineral resources, license and royalty fees for shale gas production companies. For encouraged projects like shale gas exploration and discovery, the policy also waives customs duty for imported equipment and machineries that cannot be manufactured domestically in accordance with relevant regulations.
In April 2015, to facilitate the development of the shale gas industry, the Ministry of Finance of China and China National Energy Administration issued the Notice on Fiscal Subsidies for Shale Gas Development and Utilization (Ministry of Finance No. 112 [2015]) to further implement the policy of fiscally subsidizing the shale gas industry during the period of the thirteenth "five-year" plan, and the subsidy will be RMB 0.3 per cubic meter of shale gas produced and RMB 0.2 per cubic meter of shale gas produced from 2016 to 2018 and from 2019 to 2020, respectively.
Price Controls on Crude Oil
According to the Measures for Administration of Petroleum Products Price (for Trial Implementation) issued by NDRC on March 26, 2013, the crude oil price shall be determined by the enterprises on their own accord, by reference to the international market price. The price for supplying crude oil by us and CNPC to each other shall be determined by both the parties upon consultation in accordance with the principle that the cost for transporting domestic crude oil to the refinery is equivalent to the cost for importing crude oil from international market to the refinery. The price for providing crude oil by us and the CNPC to local refineries shall be determined in reference to the supply prices between the two corporations. The price of crude oil produced by CNOOC or other enterprises shall be determined on their own accord by reference to the international market price.
According to the Measures for Administration of Petroleum Products Price issued by NDRC on January 13, 2016, the crude oil price shall be determined by the enterprises on their own accord, by reference to the international market price.
Price Controls on Natural Gas
In June 2013, NDRC released the Circular on Adjustment of the Price of Natural Gas (NDRC Pricing Circular 1246[2013]) and established a dynamic adjustment mechanism by linking prices of natural gas to the prices of alternative energy to reflect market demands. A reference ceiling price is set by the government bench-marked against city-gate price. The natural gas prices of stock gas and incremental gas shall be differentiated, and the price of incremental gas shall be adjusted in one-go to maintain a reasonable correlations with such alternative energies as fuel oil and liquefied petroleum gas (with the weight of 60% and 40%); the price of stock gas shall be adjusted within three years to be on par with the price of incremental gas. In the meantime, control over the ex-factory prices of shale gas, coal-bed gas, and coal gas and the gas source price of liquefied natural gas shall be lifted and such prices shall be determined by both the supplier and the buyer through negotiation.
From 2014 to 2015, NDRC has adjusted the price of non-residential stock natural gas for twice, and unified the stock natural gas and incremental natural gas prices. NDRC has also lifted the price control over directly supplied gas for end-users.
In November 2015, pursuant to the general guideline of furthering the price reform of resource products, NDRC released the Circular on Adjustment of the City-Gate Price of Non-Residential Stock Natural Gas (NDRC Pricing Circular 2688[2015]) to further liberalize the pricing of natural gas by replacing the reference ceiling price for city-gate prices of non-residential stock natural gas with a reference base rate. Starting from November 2016, suppliers and buyers may determine through negotiations the specific prices, subject to the cap of 120% of the reference base rate. Starting from October 2016, NDRC has gradually relaxed the control over service prices for gas storage, gas storage prices and gas prices used for fertilizer production.
Regulation of Pipelines Networks

According to the Measures for Regulation of Fair and Open Access to Oil and Gas Pipeline Networks (for Trial Implementation)(NEA No. 84 [2014]), pipeline and facility operators shall equally open pipeline networks and associated facilities to third parties and provide transportation, storage, gasification, liquefaction and compression and other services, if they have surplus capacity. The price for services will be determined by the PRC pricing authorities. Operators will be required to publish information in relation to access standards, service price, conditions and procedures for application regularly, through their own website or other platform recognized by NEA. Operators should also report to NEA or its branches in relation to the status of the facilities, the delivery points, outstanding capacity and scheduled maintenance.

In October 2016, NDRC issued the Interim Provisions for Management Measures of Natural Gas Pipeline Transmission Prices and the Interim Provisions for Supervision and Review of Natural Gas Pipeline Transmission Cost. The provisions stipulate that (1) the pricing method shall follow the principle of “permitted cost plus reasonable income” and the method and procedures for determining and adjusting prices and the related core indexes such as permitted income rate and load rate are also defined; (2) it is required that independent accounting should be conducted in respect of the natural gas transportation business with the related costs to be calculated separately, and the standards for determining the major indexes constituting costs are also defined; and (3) appropriate public disclosure of cost related information is required.

Regulation of Refining and Marketing of Refined Oil Products

Gasoline and Diesel Prices

Gasoline and diesel prices are government-guided.

In March 2013, NDRC released Circular on Establishment of Sound Price Formation Mechanism of Refined Oil Products (NDRC Pricing Circular 624[2013]), which specified that a reformed refined oil product price formation mechanism shall include: shortening of the refined oil product price adjustment period to 10 working days; elimination of the 4% price fluctuation on international market as a prerequisite for price adjustment; adjustment of the composition of benchmarked crude oil as a reference for domestic oil product prices. To save social resources, if the assessed adjustment in domestic refined oil product prices is less than RMB 50 per tonne, the adjustment will be postponed to next period. In cases of special conditions such as significant increase in domestic CPI, significant emergencies or significant fluctuations of crude oil price on international market which may trigger adjustment of domestic refined oil price, NDRC may implement ad hoc suspension, delay or narrowing of price adjustment upon the approval by the State Council. Upon elimination of the special conditions, the price formation mechanism may resume operation after NDRC obtains the State Council’s for approval.

On January 13, 2016, NDRC made further adjustments to the pricing mechanism for refined oil products, effective immediately. When benchmark crude oil price falls below US$ 40/bbl, NDRC will not further adjust oil product prices, the unadjusted portion would be transferred into a risk fund, which can be used for energy conservation and emission reduction, refined oil product quality upgrading and security of and gas supply upon approval by relevant departments.

On September 16, 2013, a Circular of Relevant Opinions on Pricing Policies for Upgrading Oil Product Quality (NDRC Pricing Circular 1845[2013]) was promulgated by NDRC. The Circular provides that the prices of gasoline and diesel products shall be increased if the quality of such products is upgraded. For standard gasoline and diesel products that are upgraded to GB IV standards, their prices shall be raised by RMB 290 per tonne and RMB 370 per tonne, respectively; for gasoline and diesel products that are upgraded from GB IV to GB V standards, their price shall be raised by RMB 170 per tonne and RMB 160 per tonne, respectively. Prices for regular diesel shall be benchmarked against automobile diesel with same specification.

Jet Fuels Price

During the transition period, the ex-factory price of the jet fuels (standard) will temporarily be determined by the buyers and the sellers, subject to a limit of no more than the CIF post-duty price in the Singapore market.

Regulation of Crude Oil and Refined Oil Products Market

On December 4, 2006, Ministry of Commerce of the PRC promulgated the “Administrative Rules for Crude Oil Market” and “Administrative Rules for Refined Oil Products Market” to open the wholesale market of crude oil and refined oil products to new market entrants, respectively. The rapid entrance of foreign enterprises into Chinese petroleum, chemical and other related business will change the current horizon of crude oil resource, as well as petroleum and chemical products market.

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Investment

Under the State Council's Decision on Investment System Reform, investments without the use of government funds are only subject to a licensing system or a registration system, as the case may be. Under the current system, only significant projects and the projects of restrictive nature are subject to approval so as to maintain social and public interests, and all other projects of any investment scale are only subject to a registration system.

In accordance with the Administrative Measures Approval and Record-filing of Overseas Investment Projects (NDRC Decree No. 9) and the Decision of NDRC on Amending the Relevant Clauses of the Administrative Measures for the Approval and Record-Filing of Outbound Investment Projects and Administrative Measures for the Approval and Record-Filing of Foreign Investment Projects (NDRC Decree No. 20), overseas investment projects involving sensitive countries or regions or sensitive industries shall be approved by NDRC, among which, projects with the amount of Chinese investment over US$ 2 billion shall be subject to an examination opinion of NDRC after being reported to the State Council for confirmation. All other projects, including those by enterprises directly administered by the SASAC and local enterprises with an investment size over US$3 billion, will require only a filing with NDRC. Overseas investments by Chinese enterprises (other than financial enterprises) involving sensitive countries or regions or sensitive industries shall be submitted to MOFCOM for approval, and other overseas investments by Chinese enterprises will only need to submit a filing with MOFCOM or its regional branches.

In accordance with the Administrative Measures for Overseas Investments issued by MOFCOM, overseas investments involving sensitive countries (regions) and sensitive shall be approved by MOFCOM. All other investments swill require only a filing with MOFCOM.

Pursuant to the Anti-Monopoly Law of the PRC which became effective on August 1, 2008, when market concentration by business carriers through merger, acquisition of control through shares or assets acquisition, or acquisition of control or the ability to exercise decisive influence over other business carriers by contract or by other means reaches a threshold of declaration level prescribed by the State Council, the business carriers shall declare in advance to the Anti-monopoly Law enforcement agency, otherwise, the business carriers shall not implement such market concentration.

The Notice of the National Energy Administration on Issuing the Measures for the Supervision and Administration of Fair Opening of Oil and Gas Pipelines Network Facilities (for Trial Implementation) (NEA No. 84 [2014]) requires that (i) oil and gas pipelines network facilities operating enterprises, in case of spare capacity of oil and gas pipelines network facilities, shall equally provide their pipeline network facilities to main third-party market players and provide transportation, storage, gasification, liquefaction, compression, and other services; (ii) the transportation (storage, gasification, etc.) prices determined by the pricing authorities in accordance with the relevant administrative provisions shall be implemented for the opening of oil and gas pipelines network facilities; (iii) oil and gas pipelines network facilities operating enterprises shall disclose the access standards, transportation (storage and gasification) prices, conditions for application for access, acceptance procedures, and other information on oil and gas pipelines network facilities on the websites or the information platforms designated by the National Energy Administration on a quarterly basis; and (iv) oil and gas pipeline network facilities operating enterprises shall submit the relevant status of oil and gas pipelines network facilities to the National Energy Administration or its dispatched offices semiannually.

Taxation, Fees and Royalty

Companies which operate petroleum and petrochemical businesses in China are subject to a variety of taxes, fees and royalties.

Effective from December 1, 2014, the rate of mineral resource compensation charges on crude oil and natural gas is reduced to zero, and the applicable resource tax rate is correspondingly increased from 5% to 6%.

Effective from January 1, 2015, the threshold of the special oil income levy is increased from US$55 to 65 per barrel, and a five-level progressive rate is applied to special oil income levy collection based on the sale prices.

From November 29, 2014 to January 12, 2015, the unit tax amount of consumption tax on gasoline, naphtha, solvent and lubricant have been adjusted three times and the current applicable consumption tax rates are set forth in the table below. For further information about consumption tax rates, see Note 6 to our consolidated financial statements.

Effective from May 1, 2016, business tax has been completed replaced by value-added tax to cover all the business sectors that used to fall under the business tax regime.

Applicable tax, fees and royalties on refined oil products and other refined oil products generally payable by us or by other companies in similar industries are shown below.

Tax Item	Tax Base	Tax Rate/Fee Rate
Enterprise income tax	Taxable income	25% effective from January 1, 2008.
Value-added tax	Revenue	13% for liquefied petroleum gas, natural gas, and low density polyethylene for production of agricultural film and fertilizers and 17% for other items. 6%, 11% and 17% for taxable services. We generally charge value-added tax to our customers at the time of settlement on top of the selling prices of our products on behalf of the taxation authority. We may directly claim refund from the value-added tax collected from our customers for value-added tax that we paid for (i) purchasing materials consumed during the production process; and (ii) charges paid for drilling and other engineering services.
Consumption tax	Aggregate volume sold or self-consumed	Effective from January 13, 2015, RMB 1.52 per liter for gasoline, naphtha, solvent and lubricant, and RMB 1.2 per liter for diesel, fuel oil and jet kerosene.
Import tariff	CIF China price	5% for gasoline, 6% for diesel, 9% for jet kerosene and 6% for fuel oil. In 2016, the applicable tax rate for motor gasoline and aviation gasoline, No. 5-7 fuel oil and diesel is 1% and 0% for jet kerosene and naphth.
Resource tax	Aggregate volume sold or self-consumed	Effective from December 1, 2014, for domestic production of crude oil and natural gas, the applicable tax rate is increased from 5% to 6% of the sales revenue, exemption or deduction may apply if qualified.
Resource compensation tax	Sales revenue of crude oil and natural gas	Effective from December 1, 2014, the applicable tax rate is reduced from 1% to zero.
Exploration license fee	Area	RMB 100 to RMB 500 per square kilometer per annum.
Production license fee	Area	RMB 1,000 per square kilometer per annum.
Royalty fee(1)	Production volume	Progressive rate of 0-12.5% for crude oil and 0-3% for natural gas.
City construction tax	Total amount of value-added tax, consumption tax and business tax	1%, 5% and 7%.
Education surcharge and local education surcharge	Total amount of value-added tax, consumption tax and business tax	3% for education surcharge and 2% for local education surcharge.

Special Oil Income Levy	Any revenue derived from sale of domestically produced crude oil when the realized crude oil price exceeds US$65 per barrel.	Progressive rate of 20% to 40% for revenues derived from crude oil with realized price in excess of US$65 per barrel.

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(1) Sino-foreign oil and gas exploration and development cooperative projects whose contracts were signed prior to November 1, 2011 and have not yet expired are still subject to royalty fee, and the project companies of those cooperative projects are not subject to any other resource taxes or fees. Sino-foreign oil and gas exploration cooperative projects whose contracts are signed after November 1, 2011 are not subject to royalty fee, but are subject to resource taxes.

C. ORGANIZATIONAL STRUCTURE

For a description of our relationship with Sinopec Group Company, see “Item 4. Information on the Company ¾ A. History and Development of the Company” and “Item 7. Major Shareholders and Related Party Transactions.” For a description of our significant subsidiaries, see Note 33 to our consolidated financial statements.

D. PROPERTY, PLANT AND EQUIPMENT

We own substantially all of our properties, plants and equipment relating to our business activities. See “Item 4. Information on the Company ¾ B. Business Overview” for description of our property, plant and equipment.

Environmental Matters

We are subject to various national environmental laws and regulations and also environmental regulations promulgated by the local governments in whose jurisdictions we have operations. For example, national regulations promulgated by the central government set discharge standards for emissions into air and water. They also set forth schedules of discharge fees for various waste substances. These schedules usually provide for discharge fee increases for each incremental amount of discharge up to a certain level. Above a certain level, the PRC regulations permit the local government to order any of our facilities to cure certain behavior causing environmental damage and subject to the central government’s approval, the local government may also issue orders to close any of our facilities that fail to comply with the existing regulations. In addition, we have incurred capital expenditure specifically in compliance with the various environmental protection objectives set by the PRC government for the petroleum and chemical industry, to promote energy saving and environmental protection in China.

Our Energy Management and Environmental Protection Department is responsible for environmental management functions such as energy saving, emission reduction, environmental protection, water saving, comprehensive utilization of resources and clean production. Each of our production subsidiaries has implemented policies to control its pollutant emissions and discharge and to oversee compliance with the PRC environmental regulations.

Most of our production facilities have their own environmental protection facilities, and the rest of our production facilities utilize available social resources, to guarantee the effective treatment of waste water, solid waste and waste gases, to ensure the compliance with applicable emission standard for our emission of waste water and waste gas, and to follow applicable disposal procedures for our disposal of solid waste.

Environmental regulations also require companies to file an environmental impact report to the environmental bureau for approval before undertaking any project with negative impact on the environment. The construction of such projects shall comply with any environmental protection measures required by the environmental bureau. The projects will only be permitted to operate after the environmental bureau has performed an inspection and is satisfied that environmentally sound equipment has been installed for the facility.

We believe our environmental protection systems and facilities are adequate for us to comply with current applicable national and local environmental protection regulations. The PRC government, however, may impose stricter regulations which require additional expenditure on compliance with environmental regulations.

Our environmental protection expenditures were approximately RMB 5.4 billion in 2014, RMB 5.8 billion in 2015 and RMB 6.4 billion in 2016.

Insurance

In respect of our refining, petrochemical production, and marketing and sales operations, we currently maintain with Sinopec Group Company, under the terms of its Safety Production Insurance Fund (SPI Fund), approximately RMB 779.4 billion of coverage on our property and plants and approximately RMB 98.5 billion of coverage on our inventory. In 2016, we paid an insurance premium of approximately RMB 2.278 billion to Sinopec Group Company for such coverage.

Transportation vehicles and products in transit are not covered by Sinopec Group Company and we maintain insurance policies for those assets with insurance companies in the PRC.

The insurance coverage under SPI Fund applies to all domestic enterprises controlled by Sinopec Group Company under regulations published by the Ministry of Finance. We believe that, in the event of a major accident, we will be able to recover most of our losses from insurance proceeds paid under the SPI Fund or by insurance companies.

Pursuant to an approval of the Ministry of Finance, Sinopec Group Company entered into an agreement with PICC Property and Casualty Company Limited on January 29, 2002 to purchase a property and casualty policy which would also cover our assets. The policy provides for an annual maximum cumulative claim amount of RMB 4.0 billion and a maximum of RMB 2.36 billion per occurrence.

ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

A. GENERAL

The following discussion and analysis should be read in conjunction with our audited consolidated financial statements. Our consolidated financial statements have been prepared in accordance with IFRS. Certain financial information presented in this section is derived from our audited consolidated financial statements. Unless otherwise indicated, all financial data presented on a consolidated basis or by segment, are presented net of inter-segment transactions (i.e., inter-segment and other intercompany transactions have been eliminated).

Critical Accounting Policies

Our reported consolidated financial condition and consolidated results of operations are sensitive to accounting methods, assumptions and estimates that underlie the preparation of our financial statements. We base our assumptions and estimates on historical experience and on various other assumptions that we believe to be reasonable and which form the basis for making judgments about matters that are not readily apparent from other sources. On an on-going basis, our management evaluates its estimates. Actual results may differ from those estimates as facts, circumstances and conditions change.

The selection of critical accounting policies, the judgments and other uncertainties affecting application of those policies and the sensitivity of reported results to changes in conditions and assumptions are factors to be considered when reviewing our financial statements. Our principal accounting policies are set forth in Note 2 to the consolidated financial statements. We believe the following critical accounting policies involve the most significant judgments and estimates used in the preparation of our financial statements.

Oil and gas properties and reserves

The accounting for our upstream oil and gas activities is subject to special accounting rules that are unique to the oil and gas business. There are two methods to account for oil and gas business activities, the successful efforts method and the full cost method. We have elected to use the successful efforts method.

The successful efforts method reflects the volatility that is inherent in exploring for mineral resources in that costs of unsuccessful exploratory efforts are charged to expense as they are incurred. These costs primarily include dry hole costs, seismic costs and other exploratory costs. Under the full cost method, these costs are capitalized and written-off (depreciation) over time.

Engineering estimates of our oil and gas reserves are inherently imprecise and represent only approximate amounts because of the subjective judgments involved in developing such information. There are authoritative guidelines regarding the engineering criteria that have to be met before estimated oil and gas reserves can be designated as "proved". Proved and proved developed reserves estimates are updated at least annually and take into account recent production and technical information about each field. In addition, as prices and cost levels change from year to year, the estimate of proved and proved developed reserves also changes. If the estimated proved reserves is adjusted downward, the change in depreciation expense or write-down of book value of oil and gas properties will have impact on our profit. This change is considered a change in estimate for accounting purposes and is reflected on a prospective basis in related depreciation rates.

Future dismantlement costs for oil and gas properties are estimated with reference to engineering estimates after taking into consideration the anticipated method of dismantlement required in accordance with industry practices in similar geographic area, including estimation of economic life of oil and gas properties, technology and price level. The present values of these estimated future dismantlement costs are capitalized as oil and gas properties with equivalent amounts recognized as provision for dismantlement costs.
Despite the inherent imprecision in these engineering estimates, these estimates are used in determining depreciation expense, impairment expense and future dismantlement costs, and in disclosing the supplemental standardized measure of discounted future net cash flows relating to proved oil and gas properties. Depreciation rates are determined based on estimated proved developed reserve quantities (the denominator) and capitalized costs of producing properties (the numerator). Producing properties' capitalized costs are amortized based on the units of oil or gas produced. Therefore, assuming all other variables are held constant, an increase in estimated proved developed reserves decreases our depreciation, depletion and amortization expense. Also, estimated reserves are often used to calculate future cash flows from our oil and gas operations, which serve as an indicator of fair value in determining whether a property is impaired or not. The larger the estimated reserves, the less likely the property is impaired.
Impairment for long-lived assets
If circumstances indicate that the net book value of a long-lived asset, including oil and gas properties, may not be recoverable, the asset may be considered "impaired", and an impairment loss may be recognized. The carrying amounts of long-lived assets are reviewed periodically in order to assess whether the recoverable amounts have declined below the carrying amounts. For goodwill, the recoverable amount is estimated annually. These assets are tested for impairment whenever events or changes in circumstances indicate that their recorded carrying amounts may not be recoverable. When such a decline has occurred, the carrying amount is reduced to recoverable amount. The recoverable amount is the greater of the net selling price and the value in use. It is difficult to precisely estimate selling price because quoted market prices for our assets or cash-generating units are not readily available. In determining the value in use, expected cash flows generated by the asset or the cash-generating unit are discounted to their present value, which requires significant judgment relating to level of sales volume, selling price and amount of operating costs. We use all readily available information in determining an amount that is a reasonable approximation of recoverable amount, including estimates based on reasonable and supportable assumptions and projections of reserve quantities, sales volume, selling price and amount of operating costs.
Impairment losses recognized for each of the three years ended December 31, 2014, 2015 and 2016 in our statement of income on long-lived assets are summarized as follows:

	Year ended December 31,		
	2014	2015	2016
	(RMB in millions)		
Exploration and production	2,436	4,864	11,605*
Refining	29	9	1,655
Marketing and distribution	40	19	267
Chemicals	1,106	142	2,898
Corporate and others	8	112	-
Total	3,619	5,146	16,425

* Information relating to the detailed analysis of the change in impairment losses is presented in Note 7 to the consolidated financial statements.

Depreciation
Property, plant and equipment (other than oil and gas properties) are depreciated on a straight-line basis over the estimated useful lives of the assets, after taking into account the estimated residual value. We review the estimated useful lives of the assets regularly in order to determine the amount of depreciation expense to be recorded during any reporting period. The useful lives are based on our historical experience with similar assets and take into account anticipated technological changes. The depreciation expense for future periods is adjusted if there are significant changes from previous estimates. There have been no changes to the estimated useful lives and residual values during each of the three years ended December 31, 2014, 2015 and 2016.

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Impairment of accounts receivable for bad and doubtful debts

We estimate impairment of accounts receivable for bad and doubtful debts resulting from the inability of our customers to make the required payments. We base our estimates on the aging of our accounts receivable balance, customer credit-worthiness, and historical write-off experience. If the financial condition of our customers were to deteriorate, actual write-offs would be higher than estimated. The changes in the impairment losses for bad and doubtful accounts are as follows:

	Year ended December 31,		
	2014	2015	2016
	(RMB in millions)		
Balance as of January 1	574	530	525
Impairment losses recognized for the year .	44	40	238
Reversal of impairment losses	(15)	(13)	(8)
Written off	(57)	(38)	(72)
Others	(16)	6	-
Balance as of December 31	530	525	683

Allowance for diminution in value of inventories

If the costs of inventories become higher than their net realizable values, an allowance for diminution in value of inventories is recognized. Net realizable value represents the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale. We base the estimates on all available information, including the current market prices of the finished goods and raw materials, and historical operating costs. If the actual selling prices were to be lower or the costs of completion were to be higher than estimated, the actual allowance for diminution in value of inventories could be higher than estimated. Allowance for diminution in value of inventories is analyzed as follows:

	Year ended December 31,		
	2014	2015	2016
	(RMB in millions)		
Balance as of January 1	1,751	3,603	4,402
Allowance for the year	3,327	3,687	430
Reversal of allowance on disposal	(136)	(34)	(10)
Written off	(1,327)	(2,931)	(4,021)
Others	(12)	77	119
Balance as of December 31	3,603	4,402	920

Recently Pronounced International Financial Reporting Standards

Information relating to the recently pronounced IFRS is presented in Note 1 to the consolidated financial statements.

Overview of Our Operations

We are the largest integrated petroleum and petrochemical company in China and one of the largest in Asia in terms of operating revenues. We engage in exploring for, developing and producing crude oil and natural gas, operating refineries and petrochemical facilities and marketing crude oil, natural gas, refined oil products and petrochemical products. We have reported our consolidated financial results according to the following four principal business segments and the corporate and others segment.

- Exploration and Production Segment, which consists of our activities related to exploring for and developing, producing and selling crude oil and natural gas;

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- Refining Segment, which consists of purchasing crude oil from our exploration and production segment and from third parties, processing of crude oil into refined oil products, selling refined oil products principally to our marketing and distribution segment;
- Marketing and Distribution Segment, which consists of purchasing refined oil products from our refining segment and third parties, and marketing, selling and distributing refined oil products by wholesale to large customers and independent distributors and retail through our retail network;
- Chemicals Segment, which consists of purchasing chemical feedstock principally from the refining segment and producing, marketing, selling and distributing chemical products; and
- Corporate and Others Segment, which consists principally of trading activities of the import and export subsidiaries and our research and development activities.

B. CONSOLIDATED RESULTS OF OPERATIONS

Year Ended December 31, 2016 Compared with Year Ended December 31, 2015

In 2016, our total operating revenues were RMB 1,930.9 billion, representing a decrease of 4.4% over 2015. Our operating income was RMB 77.2 billion, representing an increase of 35.9% over 2015.

The following table sets forth major revenue and expense items in the consolidated statement of income for the years ended December 31, 2015 and 2016.

	Year Ended December 31,		
	2015	2016	Change from 2015 to 2016
	(RMB in millions)		(%)
Operating revenues	2,020,375	1,930,911	(4.4)
Sales of goods	1,977,877	1,880,190	(4.9)
Other operating revenues	42,498	50,721	19.3
Operating expenses	(1,963,553)	(1,853,718)	(5.6)
Purchased crude oil, products and operating supplies and expenses	(1,494,046)	(1,379,691)	(7.7)
Selling, general and administrative expenses	(69,491)	(64,360)	(7.4)
Depreciation, depletion and amortization	(96,460)	(108,425)	12.4
Exploration expenses, including dry holes	(10,459)	(11,035)	5.5
Personnel expenses	(56,619)	(63,887)	12.8
Taxes other than income tax	(236,349)	(232,006)	(1.8)
Other operating (expenses)/income, net	(129)	5,686	(4,507.8)
Operating income	56,822	77,193	35.9
Net finance costs	(9,239)	(6,611)	(28.4)
Investment income and income from associates and jointly controlled entities	8,828	9,569	8.4
Earnings before income tax	56,411	80,151	42.1
Tax expense	(12,613)	(20,707)	64.2
Net income	43,798	59,444	35.7
Attributable to:			
Equity shareholders of the Company	32,512	46,672	43.6
Non-controlling interests	11,286	12,772	13.2

Operating revenues

In 2016, our sales of goods were RMB 1,880.2 billion, representing a decrease of 4.9% over 2015. This was mainly attributable to the price decline of crude oil and petrochemical products.

The following table sets forth our external sales volume, average realized prices and the respective rates of change from 2015 to 2016 for our major products:

	Sales Volume			Average Realized Price		
	2015	2016	Change from 2015 to 2016	2015	2016	Change from 2015 to 2016
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Crude oil	9,674	6,808	(29.6)	2,019	1,628	(19.4)
Domestic	9,674	6,808	(29.6)	2,019	1,628	(19.4)
Natural gas	18,440(1)	19,008(1)	3.1	1,519(2)	1,258(2)	(17.2)
Gasoline	69,749	77,480	11.1	6,749	6,386	(5.4)
Diesel	95,472	91,492	(4.2)	4,937	4,482	(9.2)
Kerosene	23,028	25,164	9.3	3,387	2,807	(17.1)
Basic chemical feedstock	29,608	32,248	8.9	4,175	4,054	(2.9)
Synthetic fiber monomer and polymer	6,071	7,146	17.7	5,796	5,325	(8.1)
Synthetic resin	11,989	12,223	2.0	7,771	7,488	(3.6)
Synthetic fiber	1,380	1,369	(0.8)	7,740	7,113	(8.1)
Synthetic rubber	1,104	1,098	(0.5)	8,778	9,608	9.5
Chemical Fertilizer	243	714	193.8	1,823	1,612	(11.6)

(1) million cubic meters
(2) RMB per thousand cubic meters

Sales of crude oil and natural gas

Most of crude oil and a portion of natural gas we produced were used internally for refining and chemical production and the remaining were sold to external customers. In 2016, the total revenue from crude oil, natural gas and other upstream products that were sold externally amounted to RMB 47.4 billion, representing a decrease of 17.8% over 2015. The change was mainly due to price and sales volume decline of crude oil in 2016.

Sales of refined petroleum products

In 2016, our refining segment and marketing and distribution segment sell petroleum products (mainly consisting of gasoline, diesel and kerosene which are referred to as the refined oil products and other refined petroleum products) to external parties. The external sales revenue realized by these two segments were RMB 1,130.4 billion, accounting for 58.5% of our operating revenues and representing a decrease of 6.3% over 2015. The decrease was mainly because of the decline in prices of various refined petrochemical products. The sales revenue of gasoline, diesel and kerosene was RMB 975.6 billion, accounting for 86.3% of the total revenue of other refined petroleum products and representing a decrease of 4.4% over 2015. The sales revenue of other refined petroleum products was RMB 154.8 billion, accounting for 13.7% of the total revenue of petroleum products and representing a decrease of 17.0% over 2015.

Sales of chemical products

Our external sales revenue of chemical products was RMB 284.3 billion, accounting for 14.7% of our operating revenues and representing an increase of 2.8% over 2015. This was mainly attributable to the increase in sales volume of chemical products.

Revenue from corporate and others

In 2016, our corporate and others realized sales revenue of RMB 418.1 billion, accounting for 21.7% of our operating revenue and representing a decrease of 4.3% over 2015. This was mainly attributable to the price decline of crude oil and petrochemical products.

Operating expenses

In 2016, our operating expenses were RMB 1,853.7 billion, representing a decrease of 5.6% over 2015, among which: Purchased crude oil, products and operating supplies and expenses were RMB 1,379.7 billion, representing a decrease of 7.7% over 2015, accounting for 74.4% of the total operating expenses, of which:

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crude oil purchase expenses were RMB 373.7 billion, representing a decrease of 20.4% over 2015. In 2016, the total throughput of crude oil that was purchased externally was 202.40 million tonnes (excluding the amount processed for third parties), representing a decrease of 1.9% over 2015; the average unit processing cost for crude oil purchased externally was RMB 2,084 per tonne, representing a decrease of 19.6% over 2015; and

- other purchasing expenses were RMB 1,006.0 billion, representing a decrease of 1.8% over 2015. This was mainly due to the price decline of feedstock purchased from external sources.

Selling, general and administrative expenses totaled RMB 64.4 billion, representing a decrease of 7.4% over 2015. This was mainly attributable to the reform of our employment system and continued efforts in cost control.

Depreciation, depletion and amortization was RMB 108.4 billion, representing an increase of 12.4% over 2015. This was mainly due to the decrease of oil and gas reserves and the increase in depreciation and depletion rate as a result of the oil price decline.

Exploration expenses, including dry holes were RMB 11.0 billion, representing an increase of 5.5% over 2015. This was mainly attributable to that fact that the Company maintained its level of exploration activities in low oil price environment.

Personnel expenses were RMB 63.9 billion, representing an increase of 12.8% over 2015. This was mainly attributable to the reform of our employment system in 2016.

Taxes other than income tax were RMB 232.0 billion, representing a decrease of 1.8% over 2015. This was mainly attributable to the consumption tax decreased by RMB 4.9 billion as a result of decline of diesel production volume and the resources tax decreased by RMB 1.0 billion as a result of oil price decline.

Other operating (expenses)/income, net were RMB 5.7 billion, decreased by RMB 5.8 billion, mainly attributable to the increase of non-operating income as a result of the disposal of Sichuan-to-East China gas pipeline assets as well as the increase of asset impairment.

Operating income

In 2016, our operating income was RMB 77.2 billion, representing an increase of 35.9% over 2015. This was mainly attributable to the utilization of our integration advantage, particularly offsetting the negative impact of low oil price by the profitability of our downstream business.

Net finance costs

In 2016, our net finance costs were RMB 6.6 billion, representing a decrease of 28.4% over 2015. This decrease in finance costs was mainly attributable to (i) interest expenses increased by RMB 1.1 billion as a result of replacing US dollar loans with RMB loans (including replacing US dollar loans and compressing risk exposures of US dollar); (ii) foreign exchange loss of RMB 0.6 billion, decreased by RMB 3.2 billion as compared with 2015; (iii) interest income increased by RMB 0.2 billion due to the increase of monetary reserve.

Earnings before income tax

In 2016, our earnings before income tax were RMB 80.2 billion, representing an increase of 42.1% over 2015.

Tax expense

In 2016, we recognized income tax expense of RMB 20.7 billion, representing an increase of 64.2% over 2015. That was mainly due to a substantial increase in profit over the same period of 2015. Detailed analysis of reconciliation between actual income tax expense and the expected income tax expense at applicable tax rate is presented in Note 9 to the consolidated financial statements.

Net income attributable to non-controlling interests

In 2016, our net income attributable to non-controlling interests was RMB 12.8 billion, representing an increase of RMB 1.5 billion over 2015.

Net income attributable to equity shareholders of the Company

In 2016, our net income attributable to our equity shareholders was RMB 46.7 billion, representing an increase of 43.6% over 2015.

Year Ended December 31, 2015 Compared with Year Ended December 31, 2014

In 2015, our total operating revenues were RMB 2,020.4 billion, representing a decrease of 28.5% over 2014. Our operating income was RMB 56.8 billion, representing a decrease of 22.6% over 2014.

The following table sets forth major revenue and expense items in the consolidated statement of income for the years ended December 31, 2014 and 2015.

	Year Ended December 31,		
	2014	2015	Change from 2014 to 2015
	(RMB in millions)		(%)
Operating revenues	2,827,566	2,020,375	(28.5)
Sales of goods	2,783,265	1,977,877	(28.9)
Other operating revenues	44,301	42,498	(4.1)
Operating expenses	(2,754,127)	(1,963,553)	(28.7)
Purchased crude oil, products and operating supplies and expenses	(2,335,530)	(1,494,046)	(36.0)
Selling, general and administrative expenses	(68,543)	(69,491)	1.4
Depreciation, depletion and amortization	(90,196)	(96,460)	6.9
Exploration expenses, including dry holes	(10,969)	(10,459)	(4.6)
Personnel expenses	(57,525)	(56,619)	(1.6)
Taxes other than income tax	(191,208)	(236,349)	23.6
Other operating (expenses)/income, net	(156)	(129)	(17.3)
Operating income	73,439	56,822	(22.6)
Net finance costs	(14,190)	(9,239)	(34.9)
Investment income and income from associates and jointly controlled entities	6,569	8,828	34.4
Earnings before income tax	65,818	56,411	(14.3)
Tax expense	(17,571)	(12,613)	(28.2)
Net income	48,247	43,798	(9.2)
Attributable to:			
Equity shareholders of the Company	46,639	32,512	(30.3)
Non-controlling interests	1,608	11,286	601.9

Operating revenues

In 2015, our sales of goods were RMB 1,977.9 billion, representing a decrease of 28.9% over 2014. This was mainly attributable to the price decline of crude oil and petrochemical products.

The following table sets forth our external sales volume, average realized prices and the respective rates of change from 2014 to 2015 for our major products:

	Sales Volume			Average Realized Price		
	2014	2015	Change from 2014 to 2015	2014	2015	Change from 2014 to 2015
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Crude oil	8,864	9,674	9.1	4,008	2,019	(49.6)
Domestic	8,780	9,674	10.2	4,001	2,019	(49.5)
Oversea	84	-	-	4,691	-	-

Natural gas	16,661 [1]	18,440 [1]	10.7	1,589 [2]	1,519 [2]	(4.4)
Gasoline	64,083	69,749	8.8	8,339	6,749	(19.1)
Diesel	102,724	95,472	(7.1)	6,647	4,937	(25.7)
Kerosene	21,845	23,028	5.4	5,710	3,387	(40.7)
Basic chemical feedstock	27,277	29,608	8.5	6,151	4,175	(32.1)
Synthetic fiber monomer and polymer	6,479	6,071	(6.3)	7,223	5,796	(19.8)

	Sales Volume			Average Realized Price		
			Change from 2014 to			Change from 2014 to
	2014	2015	2015	2014	2015	2015
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Synthetic resin	11,584	11,989	3.5	9,684	7,771	(19.8)
Synthetic fiber	1,430	1,380	(3.5)	9,436	7,740	(18.0)
Synthetic rubber	1,205	1,104	(8.4)	10,554	8,778	(16.8)
Chemcial Fertilizer	598	243	(59.4)	1,686	1,823	8.1

(1) million cubic meters
(2) RMB per thousand cubic meters

Sales of crude oil and natural gas

Most of crude oil and a portion of natural gas we produced were used internally for refining and chemical production and the remaining were sold to other customers. In 2015, the total revenue from crude oil, natural gas and other upstream products that were sold externally amounted to RMB 57.7 billion, representing a decrease of 17.0% over 2014. The change was mainly due to price decline of crude oil in 2015.

Sales of refined oil products

In 2015, our refining segment and marketing and distribution segment sell petroleum products (mainly consisting of gasoline, diesel and kerosene which are referred to as the refined oil products and other refined oil products) to external parties. The external sales revenue realized by these two segments were RMB 1,206.7 billion, accounting for 59.8% of our operating revenues and representing a decrease of 26.1% over 2014. The decrease was mainly because of the decline in prices of various refined petrochemical products. The sales revenue of gasoline, diesel and kerosene was RMB 1,020.2 billion, accounting for 84.5% of the total revenue of other refined petroleum products and representing a decrease of 24.0% over 2014. Sales revenue of other refined oil products was RMB 186.5 billion, accounting for 15.5% of the total revenue of petroleum products and representing a decrease of 36.1% over 2014.

Sales of chemical products

Our external sales revenue of chemical products was RMB 275.2 billion, accounting for 13.6% of our operating revenues and representing a decrease of 22.9% over 2014. This was mainly attributable to the price decline of our main chemical products.

Revenue from corporate and others

In 2015, our corporate and others realized sales revenue of RMB 436.7 billion, accounting for 21.6% of our operating revenue and representing a decrease of 39.4% over 2014. This was mainly attributable to the price decline of crude oil and petrochemical products.

Operating expenses

In 2015, our operating expenses were RMB 1,963.6 billion, representing a decrease of 28.7% over 2014, among which:

Purchased crude oil, products and operating supplies and expenses were RMB 1,494.0 billion, representing a decrease of 36.0% over 2014, accounting for 76.1% of the total operating expenses, of which:

- crude oil purchase expenses were RMB 469.4 billion, representing a decrease of 44.0% over 2014. In 2015, the total throughput of crude oil that was purchased externally was 176.29 million tonnes (excluding the amount processed for third parties), representing a decrease of 0.6% over 2014; the average unit processing cost for crude oil purchased externally was RMB 2,663 per tonne, representing a decrease of 43.6% over 2014; and
- other purchasing expenses were RMB 1,023.5 billion, representing a decrease of 31.6% over 2014. This was mainly due to the price decline of feedstock purchased from external sources.

Selling, general and administrative expenses totaled RMB 69.5 billion, representing an increase of 1.4% over 2014.

Depreciation, depletion and amortization was RMB 96.5 billion, representing an increase of 6.9% over 2014. This was mainly due to the continued investment in fixed assets.

Exploration expenses, including dry holes were RMB 10.5 billion, representing a decrease of 4.6% over 2014, reflecting our optimization of exploration investment and effective reduction of exploration expenses.

Personnel expenses were RMB 56.6 billion, representing a decrease of 1.6% over 2014.

Taxes other than income tax were RMB 236.3 billion, representing an increase of 23.6% over 2014. Although the special oil income levy and resources tax decreased by RMB 24.6 billion over the same period of 2014 due to crude oil price drop, the consumption tax increased by RMB 62.0 billion as a result of increased consumption tax rate, and city construction tax and educational surcharge increased by RMB 7.9 billion accordingly over the same period of 2014.

Other operating expenses, net were RMB 0.1 billion.

Operating income

In 2015, our operating income was RMB 56.8 billion, representing a decrease of 22.6% over 2014.

Net finance costs

In 2015, our net finance costs were RMB 9.2 billion, representing a decrease of 34.9% over 2014. This decrease in finance costs was mainly attributable to (i) the net interest expenses of RMB 5.1 billion, representing a decrease of RMB 4.3 billion over 2014; (ii) net losses from foreign exchange increased by RMB 3.7 billion as compared with 2014 due to the RMB exchange rate fluctuation in 2015; and (iii) loss from the fair value of our issued convertible bonds that decreased RMB 4.4 billion.

Investment income and income from associates and jointly controlled entities

The investment income and income from associates and jointly controlled entities in 2015 was RMB 8.8 billion, representing an increase of RMB 2.3 billion over 2014, which was mainly due to improved operating results of our affiliates in refining and chemicals industry.

Earnings before income tax

In 2015, our earnings before income tax were RMB 56.4 billion, representing a decrease of 14.3% over 2014.

Tax expense

In 2015, we recognized income tax expense of RMB 12.6 billion, representing a decrease of RMB 5.0 billion over 2014.

Net income attributable to non-controlling interests

In 2015, our net income attributable to non-controlling interests was RMB 11.3 billion, representing an increase of RMB 9.7 billion over 2014. This was mainly due to the restructuring of Sinopec Marketing Co., Ltd.

Net income attributable to equity shareholders of the Company

In 2015, our net income attributable to our equity shareholders was RMB 32.5 billion, representing a decrease of 30.3% over 2014.

C. DISCUSSIONS ON RESULTS OF SEGMENT OPERATIONS

We divide our operations into four business segments (exploration and production segment, refining segment, marketing and distribution segment and chemicals segment) and corporate and others. Unless otherwise specified, the inter-segment transactions have not been eliminated in the financial data discussed in this section. In addition, the operating revenue d-ata of each segment have included the “other operating revenues” of this segment.

The following table sets forth the operating revenues by each segment, the contribution of external sales and inter-segment sales as a percentage of operating revenues before elimination of inter-segment sales, and the contribution of external sales as a percentage of consolidated operating revenues (i.e. after elimination of inter-segment sales) for the periods indicated.

	Year Ended December 31,			As a Percentage of Consolidated Operating Revenues Before Elimination of Inter-segment Sales		As a Percentage of Consolidated Operating Revenues After Elimination of Inter-segment Sales	
	2014	2015	2016	2015	2016	2015	2016
	(RMB in billions)			(%)	(%)	(%)	(%)
Exploration and production							
External sales(1)	86	68	57	2.1	1.8	3.4	3.0
Inter-segment sales	142	71	59	2.2	1.9		
Total operating revenue	228	139	116	4.3	3.7		
Refining							
External sales(1)	181	126	108	3.8	3.5	6.2	5.6
Inter-segment sales	1,092	801	748	24.4	24.2		
Total operating revenue	1,273	927	856	28.2	27.7		
Marketing and distribution							
External sales(1)	1,471	1,103	1,049	33.6	33.9	54.6	54.3
Inter-segment sales	6	3	4	0.1	0.1		
Total operating revenue	1,477	1,106	1,053	33.7	34.0		
Chemicals							
External sales(1)	367	285	297	8.7	9.6	14.1	15.4
Inter-segment sales	64	43	38	1.3	1.2		
Total operating revenue	431	328	335	10.0	10.8		
Corporate and others							
External sales(1)	723	438	420	13.3	13.5	21.7	21.7
Inter-segment sales	587	346	320	10.5	10.3		
Total operating revenue	1,310	784	740	23.8	23.8		
Total operating revenue before inter-segment eliminations	4,719	3,284	3,100	100.0	100.0		
Elimination of inter-segment sales	(1,891)	(1,264)	(1,169)				
Consolidated operating revenues	2,828	2,020	1,931			100.0	100.0

(1) include other operating revenues.

The following table sets forth the operating revenues, operating expenses and operating income/(loss) by each segment before elimination of the inter-segment transactions for the periods indicated, and the changes from 2015 to 2016.

	Year Ended December 31,			Change from 2015 to 2016
	2014	2015	2016	
	(RMB in billions)			(%)
Exploration and production				

Total operating revenues	228	139	116	(16.5)
Total operating expenses	(181)	(156)	(153)	(1.9)
Total operating income/(loss)	47	(17)	(37)	117.6
Refining				
Total operating revenues	1,273	927	856	(7.7)
Total operating expenses	(1,275)	(906)	(800)	(11.7)

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	Year Ended December 31,			Change from 2015 to 2016
	2014	2015	2016	
	(RMB in billions)			(%)
Total operating (loss)/income	(2)	21	56	166.7
Marketing and distribution				
Total operating revenues	1,477	1,107	1,053	(4.9)
Total operating expenses	(1,448)	(1,078)	(1,021)	(5.3)
Total operating income/(loss)	29	29	32	10.3
Chemicals				
Total operating revenues	431	329	335	1.8
Total operating expenses	(433)	(309)	(314)	1.6
Total operating (loss)/income	(2)	20	21	5.0
Corporate and others				
Total operating revenues	1,310	784	740	(5.6)
Total operating expenses	(1,311)	(784)	(737)	(6.0)
Total operating (loss)/income	(1)	0	3	N/A
Elimination of inter-segment income	2	5	2	

Exploration and Production Segment

Most of the crude oil and a portion of the natural gas produced by the exploration and production segment were used for our refining and chemicals operations. Most of our natural gas and a small portion of crude oil were sold to other customers.

Year Ended December 31, 2016 Compared with Year Ended December 31, 2015

In 2016, the operating revenues of this segment were RMB 115.9 billion, representing a decrease of 16.5% over 2015. This was mainly attributable to the price decline of crude oil and natural gas and sales volume decrease of crude oil. This segment sold 36.38 million tonnes of crude oil and 20.56 billion cubic meters of natural gas in 2016, representing a decrease of 13.8% and an increase of 3.7% over 2015, respectively. The average realized price of crude oil and natural gas were RMB 1,734 per tonne and RMB 1,267 per thousand cubic meters, respectively, representing a decrease of 13.9% and 17.5%, respectively, over 2015.

In 2016, the operating expenses of this segment were RMB 152.6 billion, representing a decrease of 2.2% over 2015. This was mainly due to:

- Depreciation, depletion and amortization increased by RMB 9.8 billion, primarily as a result of downward revision of oil and gas reserve due to price decrease;
- Impairment of oil and gas assets increased by RMB 6.7 billion, as a result of downward revision of oil and gas reserve due to price decrease and high operating and development cost for certain oil fields; and
- other expenses (net) decreased by RMB 20.6 billion, as a result of the restructuring of Sichuan-to-East China Pipeline Co.

The lifting cost for oil and gas was RMB 786 per tonne in 2016, representing a slight increase of 0.8% despite of the production volume of crude oil decreased by 13.2% over 2015.

In 2016, the segment made every effort to optimize resource mix, attached great emphasis on cash flow contributions, and proactively controlled costs. Due to the drop in crude oil and natural gas prices, the operating loss of the exploration and production segment were RMB 36.6 billion, representing an expanded losses as compared with 2015.

Year Ended December 31, 2015 Compared with Year Ended December 31, 2014

In 2015, the operating revenues of this segment were RMB 138.7 billion, representing a decrease of 39.1% over 2014. This was mainly attributable to the decline of realized price of crude oil.

This segment sold 42.22 million tonnes of crude oil and 19.83 billion cubic meters of natural gas in 2015, representing a decrease of 2.6% and an increase of 10.3% over 2014, respectively. The average realized price of crude oil and natural gas were RMB 2,014 per tonne and RMB 1,535 per thousand cubic meters, respectively, representing a decrease of 48.9% and 4.0%, respectively, over 2014.

In 2015, the operating expenses of this segment were RMB 156.1 billion, representing a decrease of 13.6% over 2014. This was mainly due to:

- Special oil income levy and resources tax dropped by RMB 25.9 billion owing to the decline of crude oil price;
- By strengthening cost control, operating costs decreased by RMB 2.3 billion; and
- Depreciation, depletion and amortization increased by RMB 3.3 billion .

The lifting cost for oil and gas was RMB 780 per tonne in 2015, representing a year-on-year decrease of 3.0% over 2014. This was mainly attributable to stricter cost cutting policy put forward by the Company in respond to the decline of crude oil price.

In 2015, the operating loss of this segment was RMB 17.4 billion, representing a decrease of RMB 64.5 billion over 2014, which was primarily attributable to the sharp decline of crude oil price.

Refining Segment

Business activities of the refining segment consist of purchasing crude oil from third parties and from our exploration and production segment, processing crude oil into refined oil products, selling gasoline, diesel and kerosene to the marketing and distribution segment, selling a portion of chemical feedstock to our chemicals segment, and selling other refined oil products to the domestic and overseas customers.

Year Ended December 31, 2016 Compared with Year Ended December 31, 2015

In 2016, the operating revenues of this segment were RMB 855.8 billion, representing a decrease of 7.7% over 2015. This was mainly attributable to the price decline of refined oil products.

The table below sets forth sales volume and average realized prices by product for 2016 and 2015, as well as the percentage changes in sales volume and average realized prices for the periods shown.

	Sales volume		Change from 2015 to 2016	Average realized prices		Change from 2015 to 2016
	2015	2016		2015	2016	
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Gasoline	50,921	52,461	3.0	6,191	5,904	(4.6)
Diesel	63,359	58,734	(7.3)	4,797	4,505	(6.1)
Kerosene	13,518	14,529	7.5	3,420	2,814	(17.7)
Chemical feedstock	35,945	36,408	1.3	2,984	2,584	(13.4)
Other refined oil products	52,418	55,742	6.3	2,842	2,529	(11.0)

In 2016, our sales revenues of gasoline were RMB 309.7 billion, representing a decrease of 1.8% over 2015; the sales revenues of diesel were RMB 264.6 billion, representing a decrease of 12.9% over 2015; the sales revenues of kerosene were RMB 40.9 billion, representing a decrease of 11.6% over 2015; the sales revenues of chemical feedstock were RMB 94.1 billion, representing a decrease of 12.3% over 2015; and the sales revenues of other refined oil products other than gasoline, diesel, kerosene and chemical feedstock were RMB 141.0 billion, representing a decrease of 5.4% over 2015.

This segment’s operating expenses were RMB 799.5 billion in 2016, representing a decrease of 11.7% over 2015, which is mainly attributable to the decline in procurement cost of crude oil.

In 2016, the average unit cost of refining feedstock processed was RMB 2,194 per tonne, representing a decrease of 18.5% over 2015. Refining throughput were 220.98 million tonnes (excluding the volume processed for third parties), representing a decrease of 1.1% over 2015. In 2016, the total costs of refining feedstock processed were RMB 484.8 billion, representing a decrease of 19.4% over 2015.

The refining margin was RMB 471.9 per tonne in 2016, representing an increase of RMB 153.8 per tonne over 2015. This was mainly attributable to the rebound of international crude oil price, and floor prices policy for refined oil products announced by the PRC government, therefore widened the price spread between raw materials and products.

In 2016, the unit refining cash operating cost (defined as operating expenses less the purchase cost of crude oil and refining feedstock, depreciation and amortization, taxes other than income tax and other operating expenses, and divided by the refinery throughput) was RMB 165.7 per tonne, decreased by RMB 1.9 per tonne. This was mainly attributable to strengthening of cost control, improving operating efficiency and reducing costs of fuel, electricity and other auxiliaries facilities.

In 2016, this segment utilized the rebound of oil price, strengthened crude oil procurement management, adjusted structure with market-oriented efforts, increased exports and improved the profitability of self-selling products, and as a result, realized significant increase in operating profit.

This segment's operating income was RMB 56.3 billion in 2016, representing an increase of RMB 35.3 billion as compared with 2015.

Year Ended December 31, 2015 Compared with Year Ended December 31, 2014

In 2015, the operating revenues of this segment were RMB 926.6 billion, representing a decrease of 27.2% over 2014. This was mainly attributable to the price decline of refined oil products.

The table below sets forth sales volume and average realized prices by product for 2015 and 2014, as well as the percentage changes in sales volume and average realized prices for the periods shown.

	Sales volume		Change from 2014 to 2015	Average realized prices		Change from 2014 to 2015
	2014	2015		2014	2015	
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Gasoline	47,786	50,921	6.6	7,784	6,191	(20.5)
Diesel	67,945	63,359	(6.7)	6,288	4,797	(23.7)
Kerosene	12,410	13,518	8.9	5,705	3,420	(40.1)
Chemical feedstock	37,690	35,945	(4.6)	5,333	2,984	(44.1)
Other refined oil products	49,901	52,418	5.0	3,943	2,842	(27.9)

In 2015, our sales revenues of gasoline were RMB 315.3 billion, representing a decrease of 15.2% over 2014; the sales revenues of diesel were RMB 303.9 billion, representing a decrease of 28.9% over 2014; the sales revenues of kerosene were RMB 46.2 billion, representing a decrease of 34.7% over 2014; the sales revenues of chemical feedstock were RMB 107.3 billion, representing a decrease of 46.6% over 2014; and the sales revenues of other refined oil products other than gasoline, diesel, kerosene and chemical feedstock were RMB 148.9 billion, representing a decrease of 24.3% over 2014.

This segment's operating expenses were RMB 905.7 billion in 2015, representing a decrease of 29.0% over 2014, which is mainly attributable to the decline in procurement cost of crude oil.

In 2015, the average unit cost of refining feedstock processed was RMB 2,693 per tonne, representing a decrease of 42.6% over 2014. Refining throughput were 223.43 million tonnes (excluding the volume processed for third parties), representing a decrease of 0.2% over 2014. In 2015, the total costs of refining feedstock processed were RMB 601.7 billion, representing a decrease of 42.8% over 2014.

The refining margin was RMB 318.1 per tonne in 2015, representing an increase of RMB 105.1 per tonne over 2014. This was mainly attributable to continuous decline in international crude oil price, and prices of refined oil products dropped less, therefore widened the price spread between raw materials and products.

In 2015, the unit refining cash operating cost (defined as operating expenses less the purchase cost of crude oil and refining feedstock, depreciation and amortization, taxes other than income tax and other operating expenses, and divided by the refinery throughput) was RMB 167.6 per tonne, remaining flat over 2014 despite of investment in refined oil products quality upgrading.

This segment's operating income was RMB 21.0 billion in 2015, representing an increase of RMB 22.9 billion as compared with 2014. This was mainly due to the timely adjustment of refined oil product prices, tapping the Company's well established advantages in scale of refining, as well as production increase of oil products and high-value-added products for which demand was strong.

Marketing and Distribution Segment

The business activities of the marketing and distribution segment include purchasing refined oil products from our refining segment and third parties, making wholesale and distribution to domestic customers, and retail of the refined oil products through this segment's retail distribution network, as well as providing related services.

Year Ended December 31, 2016 Compared with Year Ended December 31, 2015

In 2016, the operating revenues of this segment were RMB 1,052.9 billion, representing a decrease of 4.9% compared with 2015.

In 2016, the sales revenues of gasoline, diesel and kerosene were RMB 495.2 billion, RMB 412.0 billion and RMB 70.6 billion, representing an increase of 5.1%, a decrease of 13.0% and a decrease of 9.5%, respectively, over 2015.

The following table sets forth the sales volumes, average realized prices and the respective rates of changes of the four major product categories in 2016 and 2015, including breakdown in retail, wholesale and distribution of gasoline and diesel.

	Sales Volume		Change from 2015 to 2016	Average Realized Prices		Change from 2015 to 2016
	2015	2016		2015	2016	
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Gasoline	69,842	77,613	11.1	6,747	6,380	(5.4)
Retail sale	58,211	63,718	9.5	6,996	6,722	(3.9)
Wholesale and distribution	11,631	13,895	19.5	5,498	4,812	(12.5)
Diesel	95,907	91,998	(4.1)	4,936	4,478	(9.3)
Retail sale	50,756	46,656	(8.1)	5,490	5,088	(7.3)
Wholesale and distribution	45,151	45,342	0.4	4,314	3,851	(10.7)
Kerosene	23,028	25,164	9.3	3,387	2,807	(17.1)
Fuel oil	24,980	22,034	(11.8)	2,215	1,703	(23.1)

The operating expenses of this segment in 2016 was RMB 1,020.7 billion, representing a decrease of RMB 57.1 billion or 5.3%, over 2015, which was mainly attributable to the decrease of purchase volume and purchase costs of diesel and fuel oil.

In 2016, this segment's unit cash selling expenses of refined oil products per tonne (defined as the operating expenses less the purchasing costs, taxes other than income tax, depreciation and amortization and divided by the sales volume) was RMB 197.3 per tonne, representing an increase of 4.3% over 2015.

In 2016, facing abundant domestic supply of refined oil products and strong market competition, the segment made full use of the advantages of our extensive sales network to actively expand the gasoline market, increased sales of high-grade gasoline and expanded the total sales volume, coordinated for more efficient utilization of internal and external resources, which led to improved profit margins and better performance.

The operating income of this segment in 2016 was RMB 32.2 billion, representing an increase of 11.4% over 2015.

Year Ended December 31, 2015 Compared with Year Ended December 31, 2014

In 2015, the operating revenues of this segment were RMB 1,106.7 billion, representing a decrease of 25.1% compared with 2014.

In 2015, the sales revenues of gasoline, diesel and kerosene were RMB 471.2 billion, RMB 473.4 billion and RMB 78.0 billion, representing a decrease of 12.0%, a decrease of 31.0% and a decrease of 37.5%, respectively, over 2014.

The following table sets forth the sales volumes, average realized prices and the respective rates of changes of the four major product categories in 2015 and 2014, including breakdown in retail, wholesale and distribution of gasoline and diesel.

	Sales Volume		Change from 2014 to 2015	Average Realized Prices		Change from 2014 to 2015
	2014	2015		2014	2015	
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Gasoline	64,190	69,842	8.8	8,338	6,747	(19.1)
Retail sale	53,003	58,211	9.8	8,585	6,996	(18.5)
Wholesale and distribution	11,187	11,631	4.0	7,166	5,498	(23.3)
Diesel	103,255	95,907	(7.1)	6,648	4,936	(25.7)
Retail sale	55,934	50,756	(9.3)	7,029	5,490	(21.9)
Wholesale and distribution	47,322	45,151	(4.6)	6,196	4,314	(30.4)
Kerosene	21,845	23,028	5.4	5,710	3,387	(40.7)
Fuel oil	25,537	24,980	(2.2)	4,016	2,215	(44.8)

The operating expenses of this segment in 2015 was RMB 1,077.8 billion, representing a decrease of RMB 369.3 billion or 25.5%, over 2014, which was mainly attributable to the decrease of purchase costs as a result of price decline of refined oil products.

In 2015, this segment's unit cash selling expenses of refined oil products per tonne (defined as the operating expenses less the purchasing costs, taxes other than income tax, depreciation and amortization and divided by the sales volume) was RMB 189.2 per tonne, representing a decrease of 1.9%.

The operating income of this segment in 2015 was RMB 28.9 billion, representing a decrease of 2.0% over 2014.

Chemicals Segment

The business activities of the chemicals segment include purchasing chemical feedstock from our refining segment and third parties, producing, marketing and distributing petrochemical and inorganic chemical products.

Year Ended December 31, 2016 Compared with Year Ended December 31, 2015

The operating revenues of the chemicals segment in 2016 were RMB 335.1 billion, representing an increase of 1.8% over 2015, which was mainly attributable to the increase in sales volume of chemical products.

The sales revenues of our six major categories of chemical products (namely basic organic chemicals, synthetic resins, synthetic fiber monomers and polymers for synthetic fiber, synthetic fiber, synthetic rubber and chemical fertilizer) of this segment in 2016 were approximately RMB 316.2 billion, representing an increase of 2.1% compared with 2015, accounting for 94.3% of the operating revenues of this segment.

The following table sets forth the sales volume, average realized price and the respective rates of changes for each of these six categories of chemical products of this segment from 2015 to 2016.

	Sales Volume		Change from 2015 to 2016	Average Realized Prices		Change from 2015 to 2016
	2015	2016		2015	2016	
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Basic organic chemicals	38,903	41,605	6.9	4,121	3,963	(3.8)

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	Sales Volume		Change from 2015 to 2016	Average Realized Prices		Change from 2015 to 2016
	2015	2016	2016	2015	2016	2016
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Synthetic fiber monomers and polymers	6,083	7,169	17.9	5,797	5,328	(8.1)
Synthetic resins	11,993	12,250	2.1	7,771	7,482	(3.7)
Synthetic fiber	1,380	1,369	(0.8)	7,739	7,113	(8.1)
Synthetic rubber	1,107	1,099	(0.7)	8,769	9,609	9.6
Chemical fertilizer	243	714	193.8	1,823	1,612	(11.6)

The operating expenses of this segment in 2016 were RMB 314.5 billion, representing an increase of 1.6% over 2015. In 2016, the segment seized the favorable opportunities of the low feed stock price, further adjust feed stock and product mix, coordinated production with sales, strictly controlled costs and expenses, thus, resulting in remarkable profits.

In 2016, the operating income of this segment was RMB 20.6 billion, representing an increase of RMB 1.1 billion as compared with 2015.

Year Ended December 31, 2015 Compared with Year Ended December 31, 2014

The operating revenues of the chemicals segment in 2015 were RMB 328.9 billion, representing a decrease of 23.7% over 2014, which was mainly attributable to the decrease in prices of chemical products, partly offset by the volume increase of basic organic chemicals and synthetic resin.

The sales revenues of our six major categories of chemical products (namely basic organic chemicals, synthetic resins, synthetic fiber monomers and polymers for synthetic fiber, synthetic fiber, synthetic rubber and chemical fertilizer) of this segment in 2015 were approximately RMB 309.6 billion, representing a decrease of 23.6% compared with 2014, accounting for 94.9% of the operating revenues of this segment.

The following table sets forth the sales volume, average realized price and the respective rates of changes for each of these six categories of chemical products of this segment from 2014 to 2015.

	Sales Volume		Change from 2014 to 2015	Average Realized Prices		Change from 2014 to 2015
	2014	2015	2015	2014	2015	2015
	(thousand tonnes)		(%)	(RMB per tonne)		(%)
Basic organic chemicals	35,788	38,903	8.7	6,118	4,121	(32.6)
Synthetic fiber monomers and polymers	6,496	6,083	(6.4)	7,220	5,797	(19.7)
Synthetic resins	11,603	11,993	3.4	9,679	7,771	(19.7)
Synthetic fiber	1,430	1,380	(3.5)	9,436	7,739	(18.0)
Synthetic rubber	1,207	1,107	(8.3)	10,549	8,769	(16.9)
Chemical fertilizer	598	243	(59.4)	1,686	1,823	8.1

The operating expenses of this segment in 2015 were RMB 309.4 billion, representing a decrease of 28.6% over 2014. This was mainly attributable to the decline in chemical feedstock prices which resulted in the decrease in raw material costs by RMB 115.2 billion or 32.6% over 2014 as the crude oil prices dropped.

In 2015, the operating income of this segment was RMB 19.5 billion, representing an increase of RMB 21.7 billion as compared with 2014. This was mainly due to the increasing competitiveness of naphtha-based chemical and preferable product margin as feedstock costs lowered.

Corporate and Others

The business activities of corporate and others mainly consist of the import and export business activities of our subsidiaries, research and development activities of us and managerial activities of our headquarters.

Year Ended December 31, 2016 Compared with Year Ended December 31, 2015

In 2016, the operating revenue generated from corporate and others was RMB 739.9 billion, among which the sales revenues realized by subsidiaries such as trading companies were RMB 736.2 billion, representing decrease of 5.6% over 2015, which was mainly attributable to the decrease in trading incomes caused by price drop of crude oil as well as lower revenue from crude oil trading business as compared with 2015.

In 2016, the operating expenses of this segment was RMB 736.7 billion, among which operating expenses realized by subsidiaries such as trading companies were RMB 728.0 billion, representing a decrease of 6.0% over 2015.

In 2016, the operating income of this segment was RMB 3.2 billion, among which the operating income realized by subsidiaries such as trading companies was RMB 8.2 billion.

Year Ended December 31, 2015 Compared with Year Ended December 31, 2014

In 2015, the operating revenue generated from corporate and others was RMB 783.9 billion, among which the sales revenues realized by subsidiaries such as trading companies were RMB 779.3 billion, representing decrease of 40.2% over 2014, which was mainly attributable to the decrease in trading incomes caused by price drop of crude oil.

In 2015, the operating expenses of this segment was RMB 783.5 billion, among which operating expenses realized by subsidiaries such as trading companies were RMB 775.5 billion, representing a decrease of 40.3% over 2014.

In 2015, the operating income of this segment was RMB 0.4 billion, among which the operating profit realized by subsidiaries such as trading companies was RMB 3.8 billion.

D. LIQUIDITY AND CAPITAL RESOURCES

Our primary sources of funding have been cash provided by our operating activities, along with short-term and long-term loans. Our primary uses of cash have been for working capital, capital expenditures and repayment of short-term and long-term loans. We arrange and negotiate financing with financial institutions to finance our capital resource requirement, and maintain a certain level of standby credit facilities to reduce liquidity risk. We believe that our current cash on hand, expected cash flows from operations and available standby credit facilities from financial institutions will be sufficient to meet our working capital requirements and repay our short term debts and obligations when they become due.

The following table sets forth a summary of our consolidated statements of cash flow data for the years ended December 31, 2014, 2015 and 2016.

	Year Ended December 31,		
Statement of cash flow data	2014	2015	2016
	(RMB in millions)		
Net cash generated from operating activities	148,019	165,740	214,543
Net cash used in investing activities	(132,321)	(116,719)	(66,217)
Net cash (used in)/generated from financing activities	(21,524)	9,093	(93,047)
Net (decrease)/increase in cash and cash equivalents	(5,826)	58,114	55,279

The net cash generated from our operating activities in 2016 was RMB 214.5 billion, representing an increase of RMB 48.8 billion over 2015, which was mainly due to an increase in earnings before income tax by RMB 23.7 billion, optimized fund utilization and improvement on working capital.

The net cash generated from our operating activities in 2015 was RMB 165.7 billion, representing an increase of RMB 17.7 billion over 2014, which was mainly due to the decrease in earnings before tax and improvement on working capital.

The net cash generated from our operating activities in 2014 was RMB 148.0 billion, representing a decrease of RMB 3.5 billion over 2013, which was mainly due to the decrease in earnings before tax and improvement on working capital.

The net cash used in our investing activities in 2016 was RMB 66.2 billion, representing a decrease of RMB 50.5 billion over 2015, which was mainly due to the decrease of capital expenditure by RMB 30.0 billion and RMB 13.2 billion received as proceeds from the sale of equity interest in Sinopec Sichuan-to-East China Pipeline Co., Ltd..

The net cash used in our investing activities in 2015 was RMB 116.7 billion, representing a decrease of RMB 15.6 billion over 2014, which was mainly due to the decrease of fixed assets expenditure in the reporting period.

The net cash used in our investing activities in 2014 was RMB 132.3 billion, representing a decrease of RMB 46.0 billion over 2013, which was mainly due to our control on investment activities, of which capital expenditure and exploration expenses decreased by RMB 30.6 billion and oversea acquisitions and investments in associates and joint ventures decreased by RMB 17.1 billion, compared with 2013.

The net cash outflow used in our financing activities in 2016 was RMB 93.0 billion, representing a net cash outflow increase of RMB 102.1 billion over 2015, which was mainly due to an cash inflow of RMB 105.0 billion from the capital introduction of Sinopec Marketing Co., Ltd. in 2015 and the significant reduction in interest bearing debts for two consecutive years, of which, the Company repaid RMB 62.6 billion and RMB 63.0 billion in 2015 and 2016, respectively.

The net cash inflow generated from our financing activities in 2015 was RMB 9.1 billion, representing an increase of RMB 30.6 billion over 2014. This reflected: (i) the completion of capital injection to Sinopec Marketing Co.; and (ii) the repayment of high interest bearing debts.

The net cash outflow used in our financing activities in 2014 was RMB 21.5 billion, representing a decrease of RMB 52.7 billion over 2013. This reflected: (i) proceeds from issuing shares decreased by RMB 19.4 billion; (ii) contributions to subsidiaries from non-controlling shareholders decreased by RMB 8.6 billion and (iii) interest bearing debt financing incremental amount decreased by RMB 23.5 billion.

In respect of our cash flow situation of 2016, we actively responded to the negative impact of the sharp decline in international oil price, continued to compress capital expenditures, further intensified central management of funds, strictly controlled the size of monetary funds and interest bearing debts, reduced capital precipitation, accelerated cash flow to continuously increase our operating cash flow.

In respect of our debts and borrowings, due to continuing improvement of our cash flow and receipt of proceeds from sales and investments, we decreased our debts to RMB 192.3 billion at the end of 2016 from RMB 255.2 billion from the beginning of 2016. Our short-term debts, primarily consist of revolving loans borrowed according to our business plan and operation needs and overdrawing agreements entered into on the corporate bank account with our strategic-alliance banks to meet our intra-day payment requirements, decreased by RMB 40.6 billion from the beginning of 2016. Our long-term debts decreased by RMB 22.3 billion from the beginning of 2016 due to the recognition of three tranches of our corporate bonds to be matured in 2017 as non-current debt within one year.

Contractual Obligations and Commercial Commitments

The following table sets forth our obligations and commitments to make future payments under contracts and commercial commitments as of December 31, 2016.

	As of December 31, 2016				
	Total	less than 1 year	1-3 years	4-5 years	After 5 years
		(RMB in millions)			
Contractual obligations[1]					
Short-term debt	76,145	76,145			
Long-term debt	130,069	2,832	44,416	58,284	24,537
Total contractual obligations	206,214	78,977	44,416	58,284	24,537
Other commercial commitments					
Operating lease commitments	344,878	14,917	28,194	26,197	275,570
Capital commitments	148,099	148,099			
Exploration and production licenses	1,327	263	148	49	867
Guarantees[2]	22,872	22,872			
Total commercial commitments	517,176	186,151	28,342	26,246	276,437

(1) Contractual obligations include the contractual obligations relating to interest payments.

(2) Guarantee is not limited by time, therefore specific payment due period is not applicable. As of December 31, 2016, with respect to guarantees in relation to banking facilities granted to certain parties, we have not entered into any off-balance sheet arrangements. As of December 31, 2016, the maximum amount of potential future payments under the guarantees was RMB 22.9 billion. See Note 29 to the consolidated financial statements for further information of the guarantees.

Historical and Planned Capital Expenditure

The following table sets forth our capital expenditure by segment for the years of 2014, 2015 and 2016 and the capital expenditure in each segment as a percentage of our total capital expenditure for such year.

	2014		2015		2016		Total	
	RMB	Percent	RMB	Percent	RMB	Percent	RMB	Percent
	(in billions, except percentage data)							
Exploration and production	80.20	51.83 %	54.71	48.67 %	32.19	42.10 %	167.10	48.63 %
Refining	27.96	18.07 %	15.13	13.46 %	14.35	18.77 %	57.44	16.72 %
Marketing and distribution	26.99	17.44 %	22.12	19.68 %	18.49	24.18 %	67.60	19.68 %
Chemicals	15.93	10.30 %	17.63	15.68 %	8.85	11.58 %	42.41	12.34 %
Corporate and others	3.65	2.36 %	2.82	2.51 %	2.58	3.37 %	9.05	2.63 %
Capital Expenditure	154.73	100.00%	112.41	100.00%	76.46	100.00%	343.60	100.00%

In 2016, focusing on quality and profitability of investment, we continuously optimized our investment projects. As a result, our capital expenditure amounted to RMB 76.456 billion, among which:

- Exploration and production. RMB 32.187 billion was used for Fuling shale gas and Yuanba gas field development projects and LNG terminal projects in Guangxi and Tianjin, as well as overseas projects.
- Refining. RMB 14.347 billion was used for gasoline and diesel quality upgrading projects, adjustments in the product mix and refinery revamping projects.
- Marketing and distribution. RMB 18.493 billion was used for constructing and renovating service stations and building refined oil product pipelines, depots and storage facilities, as well as for rectification of safety hazards.
- Chemicals. RMB 8.849 billion was spent on adjustment of the feedstock and product structure, the Ningdong coal chemical project and the Zhongtianhechuang coal to chemical project.
- Corporate and others. RMB 2.58 billion was used for R&D facilities and information technology application projects.

In 2017, we will continue to focus on improving investment quality and efficiency and optimize the investment projects. The total planned capital expenditure in 2017 amounts to RMB 110.2 billion, including:

- Exploration and production. The planned capital expenditure in 2017 for this segment is approximately RMB 50.5 billion, with the aim to prioritize the construction of Phase II of Fuling shale gas development, Tianjin LNG project, and gas storage project, and overseas oil and gas project development.
- Refining. The planned capital expenditure in 2017 for this segment is RMB 22.8 billion, mainly for building of refining bases, structural adjustments in the refining business, and revamping of refineries as well as GB VI quality upgrading of oil products.

- Marketing and distribution. The planned capital expenditure in 2017 for this segment is RMB 18.0 billion. We expect to focus on revamping service stations, improving pipeline network, building oil tank farms and removing safety hazards.
- Chemicals. The planned capital expenditure in 2017 for this segment is RMB 15.1 billion. We expect to focus on the construction of the integrated refining and chemical project in Zhanjiang of Guangdong Province, the integrated refining and chemical project in Gulei of Fujian Province and the high-efficiency and environmentally friendly aromatics project in Hainan refinery.
- Corporate and others. The planned capital expenditure in 2017 for this segment is RMB 3.8 billion. We expect to focus on research and development and information technology projects.

Research and Development

Our expenditures for the research and development were RMB 5.63 billion in 2014, RMB 5.65 billion in 2015, and RMB 5.94 billion in 2016.

Consumer Price Index

According to the data provided by the National Bureau of Statistics, the consumer price index in the PRC increased by 2.0% in 2016 over 2015 and increased by 3.4% over 2014. According to China's official analysis, the increase of consumer price index in the PRC during 2016 was due to the increase in prices of food and services. Inflation has not had a significant impact on our results of operations in 2016.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

Directors

The table and discussion below set forth certain information concerning our directors. The current term for all our directors is three years, which will expire in May 2018.

Name	Age	Positions with Sinopec Corp.
Wang Yupu	60	Chairman
Dai Houliang	53	Vice Chairman, President
Wang Zhigang	59	Director, Senior Vice President
Zhang Haichao	59	Director, Senior Vice President
Jiao Fangzheng	54	Director, Senior Vice President
Ma Yongsheng	55	Director, Senior Vice President
Jiang Xiaoming	63	Independent Director
Andrew Y. Yan	59	Independent Director
Tang Min	63	Independent Director
Fan Gang	62	Independent Director

Wang Yupu, aged 60, Chairman of Board of Directors of Sinopec Corp. Mr. Wang is a professor level senior engineer with a Ph.D. degree and an academician of the Chinese Academy of Engineering. In October 2000, he was appointed as Director, Deputy General Manager of Daqing Oilfield Company Limited; in December 2003, he was appointed as Chairman and General Manager of Daqing Oilfield Company Limited; in March 2008, he was appointed as Chairman and General Manager (Director-General) of Daqing Oilfield Company Limited (Daqing Petroleum Administration Bureau); in August 2009, he was appointed as Vice Governor of the People's Government of Heilongjiang Province. In July 2010, he was elected as Secretary of the Leading Party Member Group, Vice Chairman, and First Secretary of the Secretariat of All China Federation of Trade Unions; in March 2013, he was appointed as Deputy Secretary of the Leading Party Member Group (Minister Level) of the Chinese Academy of Engineering; in June 2014, he was appointed as Deputy Secretary of the Leading Party Member Group and Vice President (Minister Level) of the Chinese Academy of Engineering. In April 2015, Mr. Wang acts as Chairman and Secretary of the Leading Party Member Group of China Petrochemical Corporation. Mr. Wang is an Alternate Member of the 17th CPC Central Committee and a Member of the 18th CPC Central Committee. In May 2015, Mr. Wang was appointed as Chairman of Board of Directors of Sinopec Corp.

Dai Houliang, aged 53, Vice Chairman of Board of Directors and President of Sinopec Corp. Mr. Dai is a professor level senior engineer with a Ph.D. degree. In December 1997, he was appointed as Vice President of Yangzi

Petrochemical Corporation; in April 1998, he served as Board Director and Vice President of Yangzi Petrochemical Co., Ltd.; in July 2002, he served as Vice Chairman of Board of Directors, President of Yangzi Petrochemical Co., Ltd. and Board Director of Yangzi Petrochemical Corporation; in December 2003, he served as Chairman of Board of Directors and President of Yangzi Petrochemical Co., Ltd. and concurrently as Chairman of Board of Directors of Yangzi Petrochemical Corporation; in December 2004, he served concurrently as Chairman of Board of Directors of BASF-YPC Company Limited; in September 2005, he was appointed as Deputy CFO of Sinopec Corp.; in November 2005, he was appointed as Vice President of Sinopec Corp.; in May 2006, he served as Board Director, Senior Vice President and CFO of Sinopec Corp.; in August 2012, he was appointed concurrently as Chairman of Sinopec Great Wall EC Energy & Chemical Co., Ltd.; in March 2013, he was appointed concurrently as Chairman of Sinopec Catalyst Co., Ltd.; and in May 2009, he was elected as Board Director and appointed as Senior Vice President of Sinopec Corp. Since May 2016, Mr. Dai served as President of China Petrochemical Corporation and since August 2016, he was elected as the Vice Chairman of the Board and appointed as President of Sinopec Corp.

Wang Zhigang, aged 59, Board Director and Senior Vice President of Sinopec Corp. Mr. Wang is a professor level senior engineer with a Ph.D. Degree. In February 2000, he was appointed as Vice President of Sinopec Shengli Oilfield Co., Ltd.; in June 2000, he served as Board Director and President of Shengli Oilfield Co., Ltd.; in November 2001, he was appointed temporarily as Deputy Director General and Deputy Secretary of Leading Party Member Group of Economic and Trade Commission, Ningxia Hui Autonomous Region; in April 2003, he was appointed as Vice President of Sinopec Corp.; in June 2003, he was appointed concurrently as Director General of Exploration and Production Department of Sinopec Corp.; in March 2005, he was appointed as Senior Vice President of Sinopec Corp.; in January 2007, he was appointed concurrently as Vice Chairman of Sinopec International Petroleum Exploration and Production Corporation; in September 2014, he was appointed concurrently as Chairman of Board of Directors of Sinopec International Petroleum Exploration and Production Corporation; and in May 2006, he was elected as Board Director and appointed as Senior Vice President of Sinopec Corp.

Zhang Haichao, aged 59, Board Director and Senior Vice President of Sinopec Corp. Mr. Zhang is a professor level senior economist with a master degree. In March 1998, he was appointed as Vice President of Zhejiang Petroleum Corporation; in September 1999, he was appointed as President of Zhejiang Petroleum Corporation; in February 2000, he was appointed as President of Sinopec Zhejiang Petroleum Co., Ltd.; in April 2003, he was elected as Employee's Representative Supervisor of Sinopec Corp.; in April 2004, he served as Chairman of Board of Directors of Sinopec-BP Zhejiang Petroleum Sales Co., Ltd.; in October 2004, he served as Secretary of CPC Committee, Vice Chairman of Board of Directors, and Vice President of Sinopec Sales Co., Ltd.; in November 2005 he served as Vice President of Sinopec Corp., Secretary of CPC Committee, Chairman of Board of Directors, and President of Sinopec Sales Co., Ltd.; in June 2006, he served as Chairman of Board of Directors, and President of Sinopec Sales Co., Ltd.; in July 2014, he was appointed as Vice President of China Petrochemical Corporation; and in May 2015, he was elected as Board Director and Senior Vice President of Sinopec Corp.

Jiao Fangzheng, aged 54, Board Director and Senior Vice President of Sinopec Corp. Mr. Jiao is a professor level senior engineer with a Ph.D. degree. In January 1999, he was appointed as Chief Geologist in Zhongyuan Petroleum Exploration Bureau of China Petrochemical Corporation; in February 2000, he was appointed as Vice President and Chief Geologist of Sinopec Zhongyuan Oilfield Company; in July 2000, he was appointed as Deputy Director General of Sinopec Petroleum Exploration & Development Research Institute; in March 2001, he was appointed as Deputy Director General of Sinopec Exploration & Production Department; in June 2004, he was appointed as President of Sinopec Northwest Oilfield Company; in October 2006, he was appointed as Vice President of Sinopec Corp. in July 2010, he was appointed as the Director General of Sinopec Exploration & Production Department; in July 2014, he was appointed as Vice President of China Petrochemical Corporation; in September 2014, he was elected concurrently as Chairman of Board of Directors of Sinopec Oilfield Service Co. Ltd and Vice Chairman of Board of Directors of Sinopec International Petroleum Exploration and Production Corporation; and in May 2015, he was elected as Board Director and Senior Vice President of Sinopec Corp.

Ma Yongsheng, aged 55, Board Director and Senior Vice President of Sinopec Corp. Mr. Ma is a professor level senior engineer with a Ph.D. degree and an academician of the Chinese Academy of Engineering. In April 2002, he was appointed as Chief Geologist of Sinopec Southern Exploration and Production Company; in April 2006, he was appointed as Executive Deputy Manager (in charge of overall management), Chief Geologist of Sinopec Southern Exploration and Production Company; in January 2007, he was appointed as Manager and Party Secretary of Sinopec Southern Exploration and Production Branch; in March 2007, he served as General Manager and Deputy Party Secretary of Sinopec Exploration Branch; in May 2007, he was appointed as Deputy Commander of Sichuan-East China Gas Transmission Construction Project Headquarter of Sinopec Corp., General Manager and Deputy Secretary of CPC Committee of Sinopec Exploration Branch; in May 2008, he was appointed as Deputy Director General of Exploration and Production Department of Sinopec Corp. (Director General Level) and Deputy Commander of Sichuan-East China Gas Transmission Construction Project

Headquarter; in July 2010, he served as Deputy Chief Geologist of Sinopec Corp.; in August 2013, he was appointed as Chief Geologist of Sinopec Corp.; in February 2016, he was elected as Board Director of Sinopec Corp., and in December 2015, he served as Vice President of China Petrochemical Corporation and appointed as Senior Vice President of Sinopec Corp. In February 2016, he was eleced as Director of Sinopec Corp.

Jiang Xiaoming, aged 63, Independent Director of Sinopec Corp. Mr. Jiang has a doctorate in economics. Presently, he acts as the member of the national committee of CPPCC, director of China Foundation for Disabled Persons, member of the United Nations Board of Investment, Chairman of the Board of Directors of Hong Kong Saibo International Co. Ltd., Independent Director of COSCO International, Senior Fellow of the University of Cambridge Business School, and trustee of University of Cambridge China Development Fund. Between 1992 and 1998, he acted as the Vice President of United Nations Staff Retirement Fund; between 1999 and 2003, he acted as the Chairman of the Board of Directors of Frasers Property (China) Co., Ltd.; and he has previously acted as the Board Director of JSW Energy Ltd., member of the Advisory Committee of American Capital Group and Rothschild, the British Investment Bank, and Independent Director of China Oilfield Services Co., Ltd. From May 2012 to the present, he has acted as Independent Director of Sinopec Corp.

Andrew Y. Yan, aged 59, Independent Director of Sinopec Corp. Mr. Yan is the founding Managing Partner of SAIF Partners. He studied in Nanjing University of Aeronautics and Astronautics, Peking University and Princeton University and earned a master's degree from Princeton University. Presently, he acts as the Independent Non-executive Director of China Resources Land Limited, CPMC Holdings Limited and Cogobuy Group, the Non-executive Director of Digital China Holdings Limited, China Huiyuan Juice Group Limited, Feng Deli Holdings Limited and Guodian Technology & Environment Group Corporation Limited; the Independent Director of Beijing BlueFocus Brand Management Consulting Co., Ltd, TCL Group and Sky Solar Holdings Ltd.; and the Director of ATA Co., Ltd. From 1989 to 1994, he acted as the Economist of the World Bank headquarters in Washington, Senior Fellow of Hudson Institute, an American famous research think tank, and acted as the director of APAC Strategic Planning & Business Development of Sprint International Corporation; between 1994 and 2001, he acted as the Managing Director of Emerging Markets Partnership and Director of Hong Kong Office of AIG Asia Infrastructural Investment Fund. And from May 2012 to the present, he has acted as Independent Director of Sinopec Corp.

Tang Min, aged 63, Independent Director of Sinopec Corp. Mr. Tang has a doctorate in economics. He presently acts as a Counsellor of the State Council of the PRC and the Executive Vice Chairman of YouChange China Social Entrepreneur Foundation, Independent Director of Minmetals Development Co., Ltd, Origin Agritech Limited. He has served as the economist and senior economist at the Economic Research Centre of the Asian Development Bank between 1989 and 2000; chief economist at the Representative office of the Asian Development Bank in China between 2000 and 2004; deputy representative at the Representative Office of the Asian Development Bank in China between 2004 and 2007 and the deputy secretary-general of the China Development Research Foundation between 2007 and 2010. From May 2015 to the present, he has acted as Independent Director of Sinopec Corp.

Fan Gang, aged 62, Independent Director of Sinopec Corp. Mr. Fan has a doctorate in economics. He presently acts as Vice President of China Society of Economic Reform, President of China Reform Foundation, Head of the National Economic Research Institution, President of China Development Institute (Shenzhen) and an economics professor at Peking University. He began to work for Chinese Academy of Social Sciences in 1988, and subsequently served as Director of Editorial Department for the Economic Research Journal between 1992 and 1993 and as Deputy Head of the Institute of Economics Chinese Academy of Social Sciences between 1994 and 1995. In 1996, he was redesignated to work for China Society of Economic Reform, and subsequently founded the National Economic Research Institution. From 2006 to 2010, and from 2015 to the present, he has served as a member of the Monetary Policy Committee of People's Bank of China. Mr. Fan is recognised as one of the National Young and Middle-Aged Experts with Outstanding Contributions. From May 2015 to the present, he has acted as Independent Director of Sinopec Corp.

Supervisors

The table and discussion below set forth certain information concerning our supervisors. The current term of our supervisors is three years, which will expire in May 2018.

Name	Age	Position with the Company
Liu Zhongyun	53	Supervisor
Zhou Hengyou	53	Supervisor
Zou Huiping	56	Supervisor
Jiang Zhenying	52	Employee Representative Supervisor
Yu Renming	53	Employee Representative Supervisor
Wang Yajun	60	Employee Representative Supervisor

Liu Zhongyun, aged 53, Supervisor of Sinopec Corp. Mr. Liu is a professor level senior engineer with a doctorate in engineering. In December 2002, he was appointed as a standing committee member of CPC Committee and Director of Organisation Department of Shengli Petroleum Administration Bureau; in November 2004, he was appointed as Deputy Secretary of CPC Committee of Shengli Petroleum Administration Bureau; in December 2005, he was appointed as Manager of Sinopec Shengli Oilfield Branch; in December 2008, he was appointed as Secretary of CPC Committee of Sinopec International Petroleum Exploration and Production Corporation; in July 2010, he was appointed as General Manager of Sinopec Northwest Oilfield Company, Director General of Northwest Petroleum Bureau under China Petrochemical Corporation. Since August 2014, Mr. Liu has acted as Assistant to President and Director General of HR Department of China Petrochemical Corporation, and in May 2015, he was elected as Supervisor of Sinopec Corp.

Zhou Hengyou, aged 53, Supervisor of Sinopec Corp. Mr. Zhou is a professor level senior administration engineer and a postgraduate. In December 1998, Mr. Zhou was appointed as a standing committee member of CPC Committee and Deputy Labour Union Chairman of Jiangsu Petroleum Exploration Bureau; in February 1999, he was appointed as a standing committee member of CPC Committee and Labour Union Chairman of Jiangsu Petroleum Exploration Bureau of China Petrochemical Corporation; in December 2002, he was appointed as Deputy Secretary of CPC Committee and Labour Union Chairman of Jiangsu Petroleum Exploration Bureau; in June 2004, he was appointed as Deputy Secretary of CPC Committee and Secretary of Supervisory Committee of Jiangsu Petroleum Exploration Bureau; in August 2005, he was appointed as Secretary of CPC Committee of Jiangsu Petroleum Exploration Bureau; in March 2011,he was appointed as Director General and Secretary of CPC Committee of China Petrochemical News. In March 2015, he was appointed as Director General of the General Office of China Petrochemical Corporation, Director General of Policy Research Department of the General Office and Director General of President of Sinopec Corp. In August 2015, he was appointed as Director General of Board of Directors Office under China Petrochemical Corporation; and in May 2015, he was elected as Supervisor of Sinopec Corp.

Zou Huiping, aged 56, Supervisor of Sinopec Corp. Mr. Zou is a professor level senior accountant with a university diploma. In November 1998, he was appointed as Chief Accountant in Guangzhou Petrochemical General Plant of China Petrochemical Corporation; in February 2000, he was appointed as Deputy Director General of Finance & Assets Department of China Petrochemical Corporation; in December 2001, he was appointed as Deputy Director General of Finance & Planning Department of China Petrochemical Corporation; in March 2006, he was appointed as Director General of Finance & Assets Department of Assets Management Co., Ltd. of China Petrochemical Corporation; in March 2006, he was appointed as Director General of Auditing Department of Sinopec Corp.; and in May 2006, he was elected as Supervisor of Sinopec Corp.

Jiang Zhenying, aged 52, Employee’s Representative Supervisor of Sinopec Corp. Mr. Jiang is a professor level senior economist with a doctor degree. In December 1998, he was appointed as the Vice President of the China Petrochemical Supplies & Equipment Co., Ltd.; in February 2000, he was appointed as the Deputy Director General of Sinopec Procurement Management Department; in December 2001, he was appointed as the Director General of Sinopec Procurement Management Department and in November 2005 he concurrently held the positions of Chairman of Board of Directors, President and Secretary of CPC Committee of China Petrochemical International Co., Ltd.; in March 2006, he was appointed as the Director General (General Manager), Executive Director and Secretary of the CPC Committee of Sinopec Procurement Management Department (Sinopec International Co. Ltd.); in April 2010, he was appointed as the Director General (General Manager), Executive Director and Deputy Secretary of the CPC Committee of Sinopec Procurement Management Department (Sinopec International Co. Ltd); in November 2014, he was appointed as Director General of Security Management Department of Sinopec Corp.; and in December 2010, he was elected as the Employee’s Representative Supervisor of Sinopec Corp.

Yu Renming, aged 53, Employee’s Representative Supervisor of Sinopec Corp. Mr. Yu is a professor level senior engineer with a university diploma. In June 2000, he was appointed as the Deputy General Manager of Sinopec Zhenhai Refining & Chemical Co., Ltd.; in June 2003, he was appointed as the Board Director and Deputy General

Manager of Sinopec Zhenhai Refining & Chemical Co., Ltd.; in September 2006, he was appointed as the Vice President of Sinopec Zhenhai Refining & Chemical Company; in September 2007, he was appointed as the President and the Vice Secretary of CPC committee of Sinopec Zhenhai Refining & Chemical Company; in January 2008, he was appointed as the Director General of Sinopec Production Management Department; and in December 2010, he was elected as Employee's Representative Supervisor of Sinopec Corp.

Wang Yajun, aged 60, Empolyee's Representative Supervisor of Sinopec Corp. Mr. Wang is a professor level senior administration engineer with a university diploma. In December 2004, he was appointed as Vice Secretary of CPC committee, Secretary of Discipline Inspection Committee and Labour Union Chairman of Zhongyuan Petroleum Exploration Bureau of China Petrochemical Corporation. In November 2010, he was appointed as Party Secretary of CPC committee, of Zhongyuan Petroleum Exploration Bureau. In March 2015, Mr. Wang was appointed as Secretary of CPC of China Sinopec International Petroleum Exploration and Development Co., Ltd; and in May 2015, he was elected as Employee's Representative Supervisor of Sinopec Corp.

Other Executive Officers

Name	Age	Positions with Sinopec Corp.
Wang Dehua	50	CFO
Jiang Zhenghong	55	Vice President
Ling Yiqun	54	Vice President
Huang Wensheng	50	Vice President/Secretary to the Board of Directors
Chang Zhenyong	58	Vice President
Lei Dianwu	54	Vice President

Wang Dehua, aged 50, Chief Financial Officer of Sinopec Corp. Mr. Wang is a senior accountant with a university diploma. In January 2001, he was appointed as Deputy Director General of Finance Department of the Company; in May 2014, he was appointed as Acting Director General of Finance Department of the Company; in October 2015, he was promoted to Director General of Finance Department of Sinopec Corp.; in November 2015, he was appointed as Director General of Finance Department of China Petrochemical Corporation; in August 2016, he was appointed as Director General of Finance Department of the Company. Mr. Wang now concurrently acts as Chairman of Sinopec Century Bright Capital Investment Limited and Sinopec Insurance Co., Ltd., and Director of Sinopec Qingdao Petrochemical Company Limited. He also serves as Supervisor of Sinopec Catalyst Co., Ltd., and Vice Chairman of Taiping & Sinopec Financial Leasing Co., Ltd. In September 2016, he was appointed as Chief Financial Officer of Sinopec Corp.

Jiang Zhenghong, aged 55, Vice President of Sinopec Corp. Mr. Jiang is a professor level senior economist with a doctor degree. In September 2000, he became Vice President of Shanghai Gaoqiao Petrochemical Co., Ltd. and Sinopec Shanghai Gaoqiao Company; in September 2001, he was appointed as President of Shanghai Gaoqiao Petrochemical Co., Ltd.; in April 2006, he was appointed as Secretary of CPC Committee and Vice President of Sinopec Zhenhai Refining & Chemical Company; in September 2006, he was appointed as Secretary of CPC Committee and Vice President of Zhenhai subsidiary of China Petrochemical Corporation; in March 2008, he was promoted to President and Secretary of CPC Committee of Sinopec Zhenhai Refining & Chemical Company; in July 2010, he was appointed as President and Deputy Secretary of CPC Committee of Sinopec Zhenhai Refining & Chemical Company; in August 2013, he was appointed as the Director General of Sinopec Corporate Reform Dept.; in September 2013, he was appointed as Vice President of Sinopec Corp.

Ling Yiqun, aged 54, Vice President of Sinopec Corp. Mr. Ling is a professor level senior engineer with a master degree. From 1983, he worked in the refinery of Beijing Yanshan Petrochemical Company and the Refining Department of Beijing Yanshan Petrochemical Company Ltd. In February 2000, he was appointed as the Deputy General Director of Refining Department of Sinopec Corp.; in June 2003, he was appointed as the Director General of Refining Department of Sinopec Corp.; in May 2012, he was appointed as Executive Director, President and Secretary of CPC Committee of Sinopec Refinery Product Sales Company Limited; in August 2013, he was appointed as the President of Sinopec Qilu Company; in July 2010, he was appointed as Vice President of Sinopec Corp.

Huang Wensheng, aged 50, Vice President of Sinopec Corp. and Secretary to the Board of Directors. Mr. Huang is a professor level senior economist with a university diploma. In March 2003, he was appointed as Deputy Director General of the Board Secretariat of Sinopec Corp.; in May 2006, he was appointed as Representative on Securities Matters of Sinopec Corp.; since August 2009, He has served as the Deputy Director General of President's office of Sinopec Corp. In September 2009, he was appointed as Director General of the Board Secretariat of Sinopec Corp.; in May 2012, he was appointed as Secretary to the Board of Directors of Sinopec Corp.; and in May 2014, he was appointed as Vice President of Sinopec Corp.

Chang Zhenyong, aged 58, Vice President of Sinopec Corp. Mr. Chang is a professor level senior engineer with a master's degree. In September 1997, he was appointed as Vice President of Tianjin Petrochemical Company; in February 2000, he was appointed as Vice President of Sinopec Tianjin Company; and in September 2000, he was promoted to President of Sinopec Tianjin Company; from February 2004, he was appointed temporarily as Standing Committee of CPC Committee of Beihai, Guangxi; in March 2004, he was appointed temporarily as deputy mayor of Beihai, Guangxi; in November 2005, he was appointed as Director General of Production and Operation Management Department of Sinopec Corp.; in December 2007, he was appointed as President of Qilu Petrochemical Company and President of Sinopec Qilu Company; in April 2010, he was appointed as Employee's Representative Supervisor of Sinopec Corp.; in July 2010, he was appointed as Deputy Chief Engineer and concurrently as Director General of Chemicals Department of Sinopec Corp.; in August 2012, he was appointed concurrently as Vice Chairman of Board of Directors of Sinopec Great Wall Energy & Chemical Co., Ltd.; in November 2014, he was appointed as Executive Director and President of Sinopec Chemical Products Sales Co. Ltd and concurrently as Chairman of Board of Directors of Sinopec Chemical Products Sales (Hong Kong) Co. Ltd.; and in May 2014, he was appointed as Vice President of Sinopec Corp.

Lei Dianwu, aged 54, Vice President of Sinopec Corp. Mr. Lei is a professor level senior engineer with a university diploma. In October 1995, he was appointed as Vice President of Yangzi Petrochemical Corporation; in December 1997, he was appointed as Director General of Planning & Development Department in China Eastern United Petrochemical (Group) Co., Ltd.; in May 1998, he was appointed as Vice President of Yangzi Petrochemical Corporation; in August 1998 he was appointed as Vice President of Yangzi Petrochemical Co., Ltd.; in March 1999, he was appointed temporarily as Deputy Director General of Development & Planning Department of China Petrochemical Corporation; in February 2000, he was appointed as Deputy Director General of Development & Planning Department of Sinopec Corp.; in March 2001, he was appointed as Director General of Development & Planning Department of Sinopec Corp.; in March 2009, he was appointed as Assistant to President of China Petrochemical Corporation; in August 2013, he was appointed as the Chief Economist of China Petrochemical Corporation; in October 2015, he was appointed as Secretary to the Board of Directors of China Petrochemical Corporation; and in May 2009, he was appointed as Vice President of Sinopec Corp.

B. COMPENSATION

Salaries of Directors, Supervisors and Members of the Senior Management

Our directors and supervisors who hold working posts with us and other senior management members receive all their compensation from us in cash. Our compensation committee, with assistances from relevant administrative departments, determines the appropriate level of annual compensation for each of our directors and supervisors who hold working posts with us and other senior management members in two components: a base salary component and a performance rewards component. The base salary component is a fixed amount that will be paid on monthly basis. The performance rewards component is paid in one lump sum at about year end and the exact amounts of the performance rewards to be paid will be based on the completion by the Company of certain performance targets (key performance indicators, or KPIs) which are set at the beginning of the year and reviewed at year end. The KPIs cover areas such as profitability, workplace safety and environmental protection. Based on the annual review by our compensation committee, with the assistances from relevant administrative departments, of the Company's completion of various KPIs, our directors and supervisors who hold working posts with us and other senior management members will receive full or partial payments as their performance rewards.

The following table sets forth the compensation on individual basis for our directors, supervisors and executive officers who received compensation from us in 2016.

Name	Position with the Company	Remuneration paid by the Company in 2016 (RMB in thousands before tax)
Directors		
Wang Yupu	Chairman	—
Dai Houliang	Vice Chairman, President	745.3
Wang Zhigang	Director, Senior Vice President	698.8
Zhang Haichao	Director, Senior Vice President	—
Jiao Fangzheng	Director, Senior Vice President	—
Ma Yongsheng	Director, Senior Vice President	—
Jiang Xiaoming	Independent Director	300
Andrew Y. Yan	Independent Director	300
Tang Min	Independent Director	300
Fan Gang	Independent Director	300

Supervisors		
Liu Zhongyun	Supervisor	—
Zhou Hengyou	Supervisor	—
Zou Huiping	Supervisor	618.2
Jiang Zhenying	Employee Representative Supervisor	618.2
Yu Renming	Employee Representative Supervisor	594.1
Wang Yajun	Employee Representative Supervisor	596.6

Name	Position with the Company	Remuneration paid by the Company in 2016
Other Executive officers		
Wang Dehua	CFO	133.8
Jiang Zhenghong	Vice President	704.2
Ling Yiqun	Vice President	709.6
Huang Wensheng	Secretary of the Board of Directors/Vice President	702.0
Chang Zhenyong	Vice President	709.6
Lei Dianwu	Vice President	709.6

C. BOARD PRACTICE

We have ten directors. We have four special board committees, namely, the audit committee, the strategic committee, the remuneration and evaluation committee and social responsibility management committee. The majority of the members of the remuneration and evaluation committee and all members of the audit committee are independent directors. In addition, there is at least one independent director who is a financial expert in the audit committee.

The main responsibilities of the audit committee include:

· to propose the appointment or replacement of the independent auditor;
· to oversee the internal auditing system and its implementation;
· to coordinate the communication between the internal auditing department and the independent auditor;
· to examine and approve financial information and it disclosure; and
· to examine the financial policies, internal auditing, internal control and risk management system.

The members of our audit committee are Andrew Y. Yan, Jiang Xiaoming and Tang Min, all of whom are our Independent Non-executive Directors. Our Board has determined that Andrew Y. Yan qualifies as an audit committee financial expert.

The main responsibilities of the strategy committee are to conduct research and put forward proposals on the long-term development strategy and significant investments.

The members of our strategy committee are Wang Yupu, Dai Houliang, Wang Zhigang, Zhang Haichao, Jiao Fangzheng, Ma Yongsheng, Andrew Y. Yan and Fan Gang.

The main responsibilities of the remuneration and appraisal committee (remuneration committee) include:

· to review evaluation standards on the performance of directors and senior management, to conduct their evaluations and make suggestions to the Board; and
· to review compensation policies and scheme in respect of the remuneration of directors, supervisors and executive officers, and make suggestions to the Board.

The members of our remuneration committee are Fan Gang, Dai Houliang and Jiang Xiaoming.

The main responsibilities of the social responsibility management committee are to research on the policy, governance, strategy and planning for the Company’s social responsibility and put forward proposals to the Board. The members of social responsibility management committee are Wang Yupu, Dai Houliang and Tang Min.

Our directors have entered into directors service contracts with us and under such contracts, there is no severance pay arrangements for our directors.

As a joint stock company incorporated in the PRC, we are required by the PRC law to have in place a board of supervisors. The board of supervisors shall consist of no less than three supervisors, and at least one third of the board of supervisors shall be employee representative supervisors. Employee representative supervisors shall be elected by our employees at a meeting of employee representatives, a general meeting of employees or through other means.

According to our articles of association, the main responsibilities of our board of supervisors include:

- to review the Company's financial affairs;
- to supervise directors and executive officers when they perform their duties, and to propose to our shareholders the dismissal of any director or executive officer who has violated our articles of association and relevant laws and regulation;
- to demand directors or executive officers to rectify their conducts that conflict with our interests;
- to propose the call of any extraordinary general meeting of shareholders to the Board, and to convene and preside over such shareholder meeting if the Board fails to do so; and
- to initiate legal proceedings against directors and executive officers on behalf of the Company.

Our board of supervisors currently consists of six supervisors including three employee representative supervisors. In 2016, the supervisors attended the Company's shareholder meetings and presented at the Company's board meetings, attended the trainings for directors and supervisors of listed companies organized by Beijing Securities Supervisory Bureau under CSRC.. A detailed report of our board of supervisors' performance overview to our shareholders for the year 2016 was included in our annual report to shareholders, and could be found in the Section "Report of the Board of Supervisors" in our Form 6-K submitted to the Commission on April 7, 2017.

D. EMPLOYEES

As of December 31, 2014, 2015 and 2016, we had approximately 358,571, 351,019 and 451,611 employees, respectively. The following table sets forth the number of our employees by our business segments, their scope of work and their education as of December 31, 2016.

By Segment	Number of Employees	Percentage of Total Number of Employees (%)
Exploration and production	149,803	33
Refining	72,473	16
Marketing and distribution	153,924	34
Chemicals	64,227	14
Corporate and other	11,184	3
Total	451,611	100

By Employee's Scope of Work	Number of Employees	Percentage of Total Number of Employees (%)
Production	173,105	38
Sales	139,079	31
Technical	77,531	17
Finance	16,555	4
Administration	26,538	6
Others	18,803	4
Total	451,611	100

By Education	Number of Employees	Percentage of Total

	Number of Employees	(%)
Master's degree and above	15,210	3
University	107,126	24
Junior college	99,957	22
Technical secondary school	41,079	9
Senior high school and technical school degree or below	188,239	42
Total	451,611	100

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During this report period, there has been no significant change to our core technical team and key technicians.
We have a worker's association that protects employee rights, organizes educational programs, assists in the fulfillment of economic objectives, encourages employee participation in management decisions, and assists in mediating disputes between us and individual employees. We have not been subject to any strikes or other labor disturbances that have interfered with our operation, and we believe that our relations with our employees are good.
The total remuneration of our employees includes salary, performance bonuses and allowances. Employees also receive certain subsidies in housing, health services, education and other miscellaneous items.
As of December 31, 2016, a total of 225,418 employees have retired from our Company and all of them were participants in the basic pension schemes administered by provincial (autonomous region or municipalities) governments. Government-administered pension schemes are responsible for the payments of basic pensions.

E. SHARE OWNERSHIP

As of December 31, 2016, except our vice president Ling Yiqun who holds 13,000 shares of our A shares, none of our directors, supervisors and executive officers beneficially own any of our shares.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. MAJOR SHAREHOLDERS

The following table sets forth information regarding our 5% or more shareholders as of April 19, 2017.

Shareholder	Number of Shares Owned (in millions)	Percentage of Ownership (%)
Sinopec Group Company[(1)].	86,346	71.32

(1) Inclusive of 553,150,000 H shares held by Sinopec Century Bright Capital Investment Ltd. (overseas wholly-owned subsidiary of Sinopec Group Company) under HKSCC Nominees Limited.

As of April 19, 2017, 1,127,772,400 H shares were registered in the name of a nominee of Citibank, N.A., the depositary under our ADS deposit agreement. Citibank, N.A. has advised us that, as of April 19, 2017, 11,277,724 ADSs, representing 1,127,772,400 H shares, were held of record by Cede & Co. and 36 other registered shareholders domiciled in and outside of the United States. We have no further information as to our shares held, or beneficially owned, by U.S. persons.
To avoid the adverse effects brought by intra-industry competition to the maximum extent possible, we and Sinopec Group Company have entered into a non-competition agreement whereby Sinopec Group Company has agreed to: refrain from operating new businesses which compete or could compete with us in any of our domestic or international markets; grant us an option to purchase Sinopec Group Company's operations that compete or could compete with our businesses; operate its sales enterprises in a manner uniform to our sales and service operations; and appoint us as sales agent for certain of its products which compete or could compete with our products. To further avoid the competition with us, Sinopec Group Company granted us an undertaking, as amended, whereby Sinopec Group Company undertakes that: first, we shall become the sole platform which deals with the exploration and production of oil and gas, oil refining, chemicals, sale of petroleum products; second, Sinopec Group Company will dispose its minor remaining chemicals business by April 2019 in order to avoid the competition with us with regard to the chemicals business; and third, given that Sinopec Group Company engages in the same or similar businesses as us with regard to the exploration and production of overseas petroleum and natural gas, we have the option, after thorough analysis from political, economic and other perspectives, to require Sinopec Group Company to sell its overseas oil and gas assets owned at the time, to the extent remaining in its possession, to us. Sinopec Group Company further promises to sell its overseas oil and gas assets to us, provided that the aforementioned proposed acquisitions comply with the applicable laws and regulations, contractual

obligations and other procedural requirements. Since 2012, Sinopec Group has earnestly fulfilled its undertaking in eliminating competitions in chemical business with us through: (1) subscribing capital contribution of joint ventures controlled by us, by way of injecting net assets of certain chemical business and cash; (2) authorizing us to be in charge of production plan, management and sales of the remaining chemical business. The competition in chemical business between Sinopec Group and us has been eliminated, and as a result, no further competition between Sinopec Group Company and us with regard to the chemicals business have been resolved.

B. RELATED PARTY TRANSACTIONS

Sinopec Group Company owned 71.32% of our outstanding equity as of April 19, 2017. Sinopec Group Company is able to exercise all the rights of a controlling shareholder, including the election of directors and voting in respect of amendments to our articles of association. Sinopec Group Company, as our controlling shareholder, is subject to certain non-controlling shareholder protection provisions under our articles of association.

We have engaged from time to time and will continue to engage in a variety of transactions with Sinopec Group Company, which provide a number of services to us, including ancillary supply, transport, educational and community services. The nature of our transactions with Sinopec Group Company is governed by a number of service and other contracts between Sinopec Group Company and us. A discussion of these agreements and arrangements is set forth under the heading “Item 7 – Major Shareholders and Related Party Transactions – Related Party Transactions” in our annual report on Form 20-F filed with the Securities and Exchange Commission on October 10, 2000, April 13, 2007, May 20, 2009, April 30, 2010, April 11, 2013, April 16 ,2014, April 10, 2015 and April 20, 2016 respectively, and under the heading “Item 4 – Information on the Company – History and Development of the Company” of this annual report.

In September 2014, in connection with our plan to spin off Yizheng Chemical, we acquired all of Yizheng Chemical’s assets and liabilities. As consideration, our 40.25% equity interest in Yizheng Chemical was repurchased and cancelled by Yizheng Chemical. Subsequently, through a series of inter-group company restructuring steps, Yizheng Chemical was spun off from us in December 2014. In the same year, SOI and SCC, two of our wholly-owned subsidiaries, entered into acquisition agreements with two subsidiaries of Sinopec Group Company, pursuant to which SOI and SCC acquired 99% and 1% membership interests in COOP, respectively, from the two subsidiaries of Sinopec Group Company with an aggregate consideration of US$562 million. Upon completion of the acquisition, we indirectly held 100% interest in COOP, which holds 37.5% interest in YASREF.

On August 26, 2015, we entered into a supplementary agreement of connected transactions with Sinopec Corp., whereby the terms of the Mutual Supply Agreement and the Cultural and Educational, Hygienic and Community Services Agreement (Exhibit 4.4) were extended from January 1, 2016 to December 31, 2018. The resolution relating to continuing connected transactions for the three years from 2016 to 2018 was approved at the first extraordinary general meeting for 2015 held on October 23, 2015. For details of the above continuing connected transactions, please refer to Exhibit 4.22. Capitalized terms used in this section shall have the same meaning as that used in the above-mentioned exhibit.

On August 26, 2015, we entered into an equity transfer agreement relating with Sinopec Baichuan Economic and Trading Company (Baichuan Co., a wholly-owned subsidiary of Sinopec Group Company), pursuant to which, we proposed to transfer 100% of the equity interest of Sinopec Beijing Jingtian Engineering and Construction Co., Ltd. (Jingtian Co.) held by us to Baichuan Co. The final consideration of above-mentioned equity interest was around RMB 1.869 billion.

On October 29, 2015, we entered into a joint venture agreement with SAMC in relation to the formation of Gaoqiao. We and SAMC subscribed 55% and 45% of the registered capital of Gaoqiao, respectively.

On December 28, 2015, the Proposal on Providing Completion Guarantee for the Project Financing of Zhongtian Synergetic was considered and approved at the fourth meeting of the sixth session of Board, where our directors unanimously agreed to us providing a completion guarantee to Zhongtian Synergetic Ordos coal deep processing demonstration project subject to the provision of completion guarantees by the other shareholders of Zhongtian Synergetic on a pro-rata basis (Guarantee). The Guarantee has been considered and approved at the first extraordinary general meeting for the year 2016. Zhongtian Synergetic is a connected party of the Company under the Shanghai Listing Rules because its vice chairman, Mr. Chang Zhenyong is a vice president of the Company. However, Zhongtian Synergetic is not a connected person under the Hong Kong Listing Rules.

For our related party transaction starting from January 1, 2016, please also see Note 30 of our consolidated financial statements included elsewhere in this annual report for a detailed discussion of our related party transactions.

In 2016, we provided RMB 2.69 billion of loans to certain affiliates of Sinopec Group Company. In addition, we repaid loans with a net amount of RMB 24.88 billion to certain affiliates of Sinopec Group Company in 2016.

C. INTERESTS OF EXPERTS AND COUNSEL

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION

See consolidated financial statements included in this annual report following Item 19.

Legal Proceedings

We are involved in certain judicial and arbitral proceedings before Chinese courts or arbitral bodies concerning matters arising in connection with the conduct of our businesses. We believe, based on currently available information, that the results of such proceedings, in the aggregate, will not have a material adverse effect on our financial condition or results of operations.

Dividend Distribution Policy

In 2012, we amended our articles of association based on its original framework. Our dividend distribution policy was amended. According to our amended articles of association:

Our board of directors will determine the payment of dividends, if any, with respect to our shares on a per share basis. Any final dividend for a financial year shall be subject to shareholders' approval. The board may declare interim and special dividends at any time under general authorization by a shareholders' ordinary resolution. A decision to declare or to pay any dividends in the future, and the amount of any dividends, will depend on our results of operations, cash flows, financial condition, the payment by our subsidiaries of cash dividends to us, future prospects and other factors which our directors may determine are important.

For holders of our H shares, cash dividend payments, if any, shall be declared by our board of directors in Renminbi and paid in HK dollars. The depositary will convert the HK dollar dividend payments and distribute them to holders of ADSs in US dollars, less expenses of conversion.

The Company may distribute dividends in the following forms: cash, shares or other forms provided by laws, administrative rules, regulations of competent authorities and regulatory provisions in the place where the Company's shares are listed. The Company shall give priority to the distribution of dividends in cash. The Company may make interim dividends distribution. The Company shall distribute cash dividends when the Company's net profit and retained earnings, in separate financial statement, are positive and the Company has adequate cash inflows over the requirements of cash outflows of operation and sustainable development. The cash dividends per annum should not be less than thirty (30) percent of the net profit of the Company in the current year. Dividends in the form of shares will be distributed to the depositary and, except as otherwise described in the Deposit Agreement, will be distributed by the depositary in the form of additional ADSs, to holders of ADSs.

At the twelfth meeting of the sixth session of our board, our board approved the proposal to distribute a final cash dividend of RMB 0.17 (including tax) per share, combining with an interim distributed dividend of RMB 0.079 (including tax) per share, the total dividend for 2016 is RMB 0.249 (including tax) per share. The proposal is subject to the shareholder's approval at the annual general meeting.

B. SIGNIFICANT CHANGES

None.

ITEM 9. THE OFFER AND LISTING

A. OFFER AND LISTING DETAILS

Not applicable, except for Item 9A(4) and Item 9C.

Our H Shares have been listed on the Hong Kong Stock Exchange (Code: 0386), and our ADSs, each representing 100 H Shares, have been listed on the New York Stock Exchange and the London Stock Exchange under the symbol "SNP", since we completed our initial public offering on October 19, 2000. Prior to that time, there was no public market for our H Shares. The Hong Kong Stock Exchange is the principal non-U.S. trading market for our H Shares. Our publicly traded domestic shares, or A shares, are listed on the Stock Exchange of Shanghai since August 8, 2001 (Code: 600028).

The following table sets forth, for the periods indicated, the high and low closing prices per H Share, as reported on the Stock Exchange of Hong Kong, per ADS, as reported on the New York Stock Exchange and per A share, as reported on the Stock Exchange of Shanghai.

	The Stock Exchange of Hong Kong		The New York Stock Exchange		The Shanghai Stock Exchange	
Period	High	Low	High	Low	High	Low
April 2017 (as of April 19, 2017)	6.55	5.98	84.50	76.66	5.99	5.56
Past 6 months	(HK dollar per H share)		(US dollar per ADS)		(RMB per A share)	
2017 March	6.36	5.80	82.42	74.86	5.80	5.51
2017 February	6.22	6.00	80.41	77.49	6.03	5.73
2017 January	6.28	5.50	81.62	71.02	6.06	5.41
2016 December	5.81	5.46	74.36	70.86	5.67	5.27
2016 November	5.80	5.27	74.22	68.12	5.23	4.93
2016 October	5.95	5.65	77.47	72.42	5.07	4.86
Quarterly Data						
2017 First Quarter	6.36	5.50	82.42	71.92	6.06	5.51
2016 Fourth Quarter	5.95	5.27	77.47	68.12	5.67	4.86
Third Quarter	5.84	5.28	75.21	68.10	5.02	4.70
Second Quarter	5.65	4.93	73.06	62.99	5.08	4.60
First Quarter	5.09	3.88	65.15	49.82	4.96	4.27
2015 Fourth Quarter	5.81	4.35	75.39	55.73	5.39	4.74
Third Quarter	6.69	4.48	84.32	59.37	7.47	4.49
Second Quarter	7.63	6.19	96.41	80.20	8.67	6.45
First Quarter	6.53	6.01	83.80	76.93	7.18	5.68
Annual Data						
2016	5.95	3.88	77.47	49.82	5.67	4.27
2015	7.63	4.35	96.41	55.73	8.67	4.49
2014	8.18	5.74	105.28	74.53	6.56	4.38
2013	7.26	5.08	94.36	65.95	5.94	4.10
2012	9.63	6.43	124.95	82.69	7.86	5.80

Source: Bloomberg

ITEM 10. ADDITIONAL INFORMATION

A. SHARE CAPITAL

Not applicable.

B. MEMORANDUM AND ARTICLES OF ASSOCIATION

The following is a summary of certain provisions of our articles of association and its appendices, as amended, the Company Law of the PRC (2006) and certain other applicable laws and regulations of the PRC. You and your advisors should refer to the text of our articles of association, as amended, and to the texts of applicable laws and regulations for further information.

Objects and Purposes

We are a joint stock limited company established in accordance with the Company Law and certain other laws and regulations of the PRC. We are registered with the PRC State Administration of Industry and Commerce with business license number 100000000032985. Article 12 of our articles of association provides that our scope of businesses includes, among other things, the production, storage, pipeline transportation, land transportation, water transportation and sale of non-coal mines (oil and natural gas etc.), dangerous chemicals (ethylene, propylene, butadiene and naphtha etc.), heavy oil, rubber and other chemical raw materials and products; oil refining; wholesaling and retailing (for subsidiaries only) of gasoline, kerosene and diesel oil; the production, storage, transportation and sale of natural gas chemicals and coal chemicals; sale of lubricant, fuel oil, solvent naphtha and asphalt; production of chemical fertilizer; operation of LPG station, sales of CNG, LNG, LPG and city gas; operation of electrical vehicle charging station; production, supervision of manufacturing, installation of oil and petrochemical machinery and equipment; purchase and sale of oil and petrochemical raw and auxiliary materials, equipment and parts; technology and information, research, development, application and consultation of alternative energy products; production and sales of electricity, steam, water and industrial gases; wholesaling of farm, forestry and pasture products; operation of general merchandise convenience stores; wholesaling and retailing of knitted garments and housewares; wholesaling and retailing of cultural and sports goods and equipment; sale of food, beverages and tobacco products; wholesaling and retailing of pharmaceuticals and medical devices; retailing of automobiles, motorcycles and components; repair and maintenance of and technical training for automobiles and motorcycles; wholesaling and retailing of machineries, hardware products, electronic products and household appliances; retailing of furniture and materials for indoor decoration; stalls, no-store sale and other forms of retail business; general merchandise retail; accommodation and catering services; residents´ services; transportation agency services; warehousing; operation of self-owned properties; lease of machineries; media, advertising and acting as commission agent; insurance brokerage and agency services; financial trust and management services; E-commerce; self-operation of and acting as agency for the import and export of various commodities and technologies other than those restricted or prohibited by the state from import and export; contractor of overseas mechanical, electronics, petrochemical projects and domestic international bid-inviting projects; export of equipment and materials required for the aforementioned overseas projects; dispatch of labor required for the aforementioned overseas projects.

Directors

Our directors shall be elected at our shareholders' general meeting. Cumulative voting shall be adopted for the election of directors if a controlling shareholder controls 30% or more of our shares. Details of the cumulative voting mechanism are set forth in Article 59 of the Rules and Procedures for the Shareholders' General Meetings that is an appendix to, and forms an integral part of, our articles of association. Our directors shall be elected for a term of three years and may serve consecutive terms upon re-election, except that independent directors may only serve a maximum of two terms. Our directors are not required to hold any shares in us, and there is no age limit requirement for the retirement or non-retirement of our directors.

Where a director is materially interested, directly or indirectly, in a contract, transaction or arrangement (including any proposed contract, transaction or arrangement) with us, he or she shall declare the nature and extent of his or her interests to the board of directors at the earliest opportunity, whether or not such contract, transaction or arrangement is otherwise subject to the approval of the board. A director shall not vote, and shall not be counted in the quorum of the meeting, on any resolution concerning any contract, transaction or arrangement where the director owns material rights or interests therein. A director is deemed to be interested in a contract, transaction or arrangement in which his associate (as defined by the Listing Rule of the Hong Kong Stock Exchange) is interested.

Unless the interested director discloses his interests to the board and the contract, transaction or arrangement in which the director is materially interested is approved by the board at a meeting in which the director neither votes nor is
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not counted in the quorum, such contract, transaction or arrangement shall be voidable by us except with respect to a bona fide party thereto who does not have notice of the director's interests.
We are prohibited from making loans or providing guarantees to our directors and their associates except where such loan or guarantee is to meet expenditure requirement incurred or to be incurred by the director for the purposes of the company or for the purpose of enabling the director to perform his or her duties properly in accordance with the terms of a service contract approved by the shareholders in a general meeting.
The board of directors shall examine and approve the amount of the long-term loans for the current year according to the annual investment plan as approved by the shareholders' general meeting. The chairman of the board of directors is authorized to make adjustments of no more than 10% of the total amount of the long-term loans as approved by the board of directors for the current year. Within the total amount of the long-term loans as approved by the board of directors, the chairman of the board of directors is authorized to approve and execute individual long-term loan agreement with the loan amount exceeding RMB 1 billion, and the president is authorized to approve and execute individual long-term loan agreement with the loan amount not exceeding RMB 1 billion. Within the total amount of the working capital loans for the current year as approved by the board of directors, the chairman of the board of directors is authorized to execute the overall short-term loan facility agreement for raising working capitals as we need.
Matters relating to the remuneration of our directors shall be determined by the shareholders' general meeting.
Dividends
A distribution of final dividends for any financial year is subject to shareholders' approval. Except as otherwise decided by Shareholders' meeting, the board of directors may make decision on the distribution of interim dividends. Except as otherwise provided by laws and regulations, the sum of interim dividends shall not exceed 50 percents of the net profit for the half year interim period. Dividends may be distributed in the forms of cash, shares or other forms provided by laws, administrative rules or regulations of competent authorities and regulatory provisions in the place where the Company's shares are listed. The Company shall give priority to the distribution of dividends in cash. A distribution of shares, however, must be approved by special resolution of the shareholders.
Dividends may only be distributed after allowance has been made for:
· recovery of losses, if any;
· allocations to the statutory surplus reserve fund; and
· allocations to a discretionary surplus reserve fund if approved by the shareholders.
The allocations to the statutory surplus reserve fund shall be 10% of our after-tax profits of the current year determined in accordance with ASBE. In the event that the statutory surplus reserve balance reaches fifty (50) percent of the registered capital of the Company, no allocation is needed.
The articles of association require us to appoint on behalf of the holders of H shares a receiving agent which is registered as a trust corporation under the Trustee Ordinance of Hong Kong to receive dividends declared by us in respect of the H shares on behalf of such shareholders. The articles of association require that cash dividends in respect of H shares be declared in Renminbi and paid by us in HK dollars. The depositary of our ADSs will convert such proceeds into U.S. dollars and will remit such converted proceeds to our holders of ADSs. If we record no profit for the year, we may not normally distribute dividends for the year.
Dividend payments may be subject to PRC withholding tax.
Voting Rights and Shareholders' Meetings
Our board of directors shall convene a shareholders' annual general meeting once every year and within six months from the end of the preceding financial year. Our board shall convene an extraordinary general meeting within two months of the occurrence of any one of the following events:
· where the number of directors is less than the number stipulated in the PRC Company Law or two-thirds of the number specified in our articles of association;
· where our unrecovered losses reach one-third of the total amount of our actually paid-in share capital;

- where shareholder(s) holding 10% or more of our issued and outstanding voting shares request(s) in writing the convening of an extraordinary general meeting;
- whenever our board deems necessary or our board of supervisors so requests; or
- circumstances provided in the articles of association.

Meetings of a special class of shareholders must be called in certain enumerated situations when the rights of the holders of such class of shares may be modified or adversely affected as discussed below. Proposals made by the board of directors, the board of supervisors or shareholder(s) holding 3% or more of the total number of voting shares shall be included in the agenda for the relevant general meeting if they are matters which fall within the scope of the functions and powers of shareholders in general meeting. Shareholder(s) holding 3% or more of the total shares of the Company may put forward interim motions by written proposals to the convener 10 days before the shareholders' general meeting. The convener shall publish supplementary notice to announce the interim motion within two days upon receiving.

All shareholders' meetings must be convened by our board of directors by written notice given to shareholders no less than 45 days before the meeting, by our board of supervisors or certain qualified shareholders in case a shareholders' meeting is not convened by our board of directors and board of supervisors. Shareholder(s) holding 10% or more the total number of shares of the Company have the right to convene and chair the interim shareholders' general meeting or class shareholders' meeting in accordance with the provisions in laws, administrative rules and the articles of association, in the event that the board of directors and the board of supervisors fail to convene and chair such meeting upon demand made by such shareholders. Based on the written replies received by us 20 days before a shareholders' meeting, we shall calculate the number of voting shares represented by shareholders who have indicated that they intend to attend the meeting. Where the number of voting shares represented by those shareholders amount to more than one-half of our total voting shares, we may convene the shareholders' general meeting (regardless of the number of shareholders who actually attend). Otherwise, we shall, within five days, inform the shareholders again of the motions to be considered and the date and venue of the meeting by way of public announcement. After the announcement is made, the shareholders' meeting may be convened. The accidental omission by us to give notice of a meeting to, or the non-receipt of notice of a meeting by, a shareholder will not invalidate the proceedings at that shareholders' meeting.

Shareholders at meetings have the power, among other things, to approve or reject our profit distribution plans, annual budget, financial statements, increase or decrease in share capital, issuance of debentures, merger or liquidation and any amendment to our articles of association. Shareholders of the shares which the Company issues to foreign investors for subscription in foreign currencies possess the same rights and undertake the same obligations as those of the shares which the Company issues to domestic investors for subscription in Renminbi. In addition, the rights of a class of shareholders may not be modified or abrogated, unless approved by a special resolution of all shareholders at a general shareholders' meeting and by a special resolution of shareholders of that class of shares at a separate meeting. Our articles of association enumerate, without limitation, certain amendments which would be deemed to be a modification or abrogation of the rights of a class of shareholders, including increasing or decreasing the number of shares of a class disproportionate to increases or decreases of other classes of shares, removing or reducing rights to receive dividends in a particular currency or creating shares with voting or equity rights superior to shares of such class.

Cumulative voting in accordance with the relevant laws and regulations in effect is adopted for the election of directors and supervisors. For all other matters, each share is entitled to one vote on all such matters submitted to a vote of our shareholders at all shareholders' meetings, except for meetings of a special class of shareholders where only holders of shares of the affected class are entitled to vote on the basis of one vote per share of the affected class. Shareholders are entitled to attend and vote at meetings either in person or by proxy. Proxies must be in writing and deposited at our legal address, or such other place as is specified in the meeting notice, no less than 24 hours before the time for holding the meeting at which the proxy proposes to vote or the time appointed for the passing of the relevant resolution(s). When the instrument appointing a proxy is executed by the shareholder's attorney-in-fact, such proxy when deposited must be accompanied by a notary certified copy of the relevant power of attorney or other authority under which the proxy was executed.

Except for those actions discussed below which require supermajority votes (special resolutions), resolutions of the shareholders are passed by a simple majority of the voting shares held by shareholders who are present in person or by proxy. Special resolutions must be passed by or more than two-thirds of the voting rights represented held by shareholders who are present in person or by proxy.

The following decisions must be adopted by special resolution:

- an increase or reduction of our share capital or the issue of shares, including stock distributions, of any class, warrants and other similar securities;
- issuance of debentures;
- our division, merger, dissolution and liquidation; (Shareholders who object to a proposed division or merger are entitled to demand that either we or the shareholders who approved the merger purchase their shares at a fair price.)
- amendments to our articles of association and its appendices;
- change of our company form;
- acquisition or disposal of material assets or provision of material guarantee within one year, with the value exceeding 30% of our latest audited total assets;
- any stock incentive plan;
- any other matters required by laws and regulations or our articles of association and its appendices or considered by the shareholders in a general meeting and which they have resolved by way of an ordinary resolution to be of a nature which may have a material impact on us and should be adopted by special resolution.

All other actions taken by the shareholders, including the appointment and removal of our directors and supervisors and the declaration of cash dividend payments, will be decided by an ordinary resolution of the shareholders. The listing agreement between us and the Hong Kong Stock Exchange (Listing Agreement) provided that we may not permit amendments to certain sections of the articles of association which have been mandated by the Hong Kong Stock Exchange. These sections include provisions relating to:

- varying the rights of existing classes of shares;
- voting rights;
- our power to purchase our own shares;
- rights of non-controlling shareholders; and
- procedure on liquidation.

In addition, certain amendments to the articles of association require the approval and consent of the relevant PRC authorities.

Any shareholder resolution which is in violation of any laws or administrative regulations of the PRC will be null and void subject to statutory procedures.

Liquidation Rights

In the event of our liquidation, the H shares will rank pari passu with the domestic ordinary shares, and payment of debts out of our remaining assets shall be made in the order of priority prescribed by applicable laws and regulations or, if no such standards exist, in accordance with such procedure as the liquidation committee which has been appointed either by us or the People’s Court of the PRC may consider to be fair and reasonable. After payment of debts, we shall distribute the remaining property to shareholders according to the class and proportion of their shareholders.

Further Capital Call

Shareholders are not liable to make any further contribution to the share capital other than according to the terms, which were agreed by the subscriber of the relevant shares at the time of subscription.

Increases in Share Capital and Preemptive Rights

The articles of association require the approval by a special resolution of the shareholders and by special resolution of holders of domestic ordinary shares and overseas-listed foreign invested shares at separate shareholder class meetings be obtained prior to authorizing, allotting, issuing or granting shares, securities convertible into shares or options, warrants or similar rights to subscribe for any shares or such convertible securities. No such approval is required if, but only to the extent that:

- we issue domestic ordinary shares and/or overseas-listed foreign-invested shares, either separately or concurrently, in numbers not exceeding 20% of the number of domestic ordinary shares and overseas-listed foreign-invested shares then in issue, respectively, in any 12-month period, as approved by a special resolution of the shareholders; or
- if our plans for issuing domestic ordinary shares and overseas-listed foreign-invested shares upon our establishment are implemented within fifteen months of the date of approval by the China Securities Regulatory Commission.

New issues of shares must also be approved by the relevant PRC authorities.

Reduction of Share Capital and Purchase by Us of Our Shares and General Mandate to Repurchase Shares

We may reduce our registered share capital only upon obtaining the approval of the shareholders by a special resolution and, in certain circumstances, of relevant PRC authorities. The number of H shares, which may be purchased is subject to the Hong Kong Takeovers and Share Repurchase Codes.

Restrictions on Large or Controlling Shareholders

Our articles of association provide that, in addition to any obligation imposed by laws and administration regulations or required by the listing rules of the stock exchanges on which our H shares are listed, a controlling shareholder shall not exercise his voting rights in a manner prejudicial to the interests of the shareholders generally or of some part of the shareholders:

- to relieve a director or supervisor from his or her duty to act honestly in our best interests;
- to approve the expropriation by a director or supervisor (for his or her own benefit or for the benefit of another person) of our assets in any way, including, without limitation, opportunities which may benefit us; or
- to approve the expropriation by a director or supervisor (for his or her own benefit or for the benefit of another person) of the individual rights of other shareholders, including, without limitation, rights to distributions and voting rights (save according to a restructuring of our company which has been submitted for approval by the shareholders in a general meeting in accordance with our articles of association and its appendices).

A controlling shareholder, however, will not be precluded by our articles of association or any laws and administrative regulations or the listing rules of the stock exchanges on which our H shares are listed from voting on these matters.

A controlling shareholder is defined by our articles of association as any person who acting alone or in concert with others:

- is in a position to elect half or more of the board of directors;
- has the power to exercise, or to control the exercise of, 30% or more of our voting rights;
- acting separately or in concert with others, holds 30% or more of our issued and outstanding shares,; or
- acting separately or in concert with others, has de facto control of us in any other way.

As of the date of this annual report, Sinopec Group Company is and will be our only controlling shareholder.

Disclosure

The Listing Agreement imposes a requirement on us to keep the Hong Kong Stock Exchange, our shareholders and other holders of our listed securities informed as soon as reasonably practicable of any information relating to us and our subsidiaries, including information on any major new developments which are not public knowledge, which:

- is necessary to enable them and the public to appraise the position of us and our subsidiaries;
- is necessary to avoid the establishment of a false market in its securities; and
- might be reasonably expected materially to affect market activity in and the price of its securities.

There are also requirements under the Listing Rules for us to obtain prior shareholders' approval and/or to disclose to shareholders details of certain acquisitions or disposals of assets and other transactions (including transactions with controlling shareholders).

Sources of Shareholders' Rights

The PRC's legal system is based on written statutes and is a system in which decided legal cases have little precedent value. The PRC's legal system is similar to civil law systems in this regard. In 1979, the PRC began the process of developing its legal system by undertaking to promulgate a comprehensive system of laws. In December 1993, the Standing Committee of the 8th National People's Congress adopted the PRC Company Law. On October 27, 2005, the PRC Company law was amended by the Standing Committee of the 10th National People's Congress, and came into force on January 1, 2006. The amended PRC Company Law enhanced the protection of shareholders' rights primarily in the following regards:

- Shareholders holding 10 percent or more of the shares of the company are entitled to petition the court to dissolve the company if (i) the company is in serious operational difficulties; (ii) its continuing existence will seriously prejudice the interests of the shareholders; and (iii) such difficulties cannot be resolved through any other means;
- Shareholders holding 1 percent or more of the shares of the company for more than 180 consecutive days are entitled to request the board of supervisors (in terms of directors and senior management) or the board of directors (in terms of supervisors) to bring legal proceedings, or bring legal proceedings in their own name on behalf of the company where it is in emergency and the company will be subject to irreparable loss if not to do so, against directors, supervisors or senior management who fail to comply with the laws and regulations or the company's articles of association in the course of performing their duties and cause loss to the company;
- Shareholders who oppose the company's decision on merger or separation are entitled to request the company to repurchase their shares; and
- Shareholders holding 10 percent or more of the voting rights of the company are entitled to convene a shareholders' meeting.

Currently, the primary sources of shareholder rights are our articles of association, as amended, the PRC Company Law and the Listing Rules of the Hong Kong Stock Exchange, which, among other things, impose certain standards of conduct, fairness and disclosure on us, our directors and our controlling shareholder, i.e., Sinopec Group Company.

To facilitate the offering and listing of shares of PRC companies overseas, and to regulate the behavior of companies whose shares are listed overseas, the State Council Securities Committee and the State Commission for Restructuring the Economic System issued on August 27, 1994 the Mandatory Provisions for articles of association of Company Listing Overseas (Mandatory Provisions). These Mandatory Provisions become entrenched in that, once they are incorporated into the articles of association of a PRC company, any amendment to those provisions will only become effective after approval by the SASAC. The Listing Rules require a number of additional provisions to the Mandatory Provisions to be included in the articles of association of PRC companies listing H shares on the Hong Kong Stock Exchange (Additional Provisions). The Mandatory Provisions and the Additional Provisions have been incorporated into our articles of association.

In addition, upon the listing of and for so long as the H shares are listed on the Hong Kong Stock Exchange, we will be subject to those relevant ordinances, rules and regulations applicable to companies listed on the Hong Kong Stock

Exchange, including the Listing Rules of the Hong Kong Stock Exchange, the Securities (Disclosure of Interests) Ordinance (SDI Ordinance), the Securities (Insider Dealing) Ordinance and the Hong Kong Codes on Takeovers and Mergers and Share Repurchases (Hong Kong Takeovers and Repurchase Codes).

Unless otherwise specified, all rights, obligations and protections discussed below derive from our articles of association and/or the PRC Company Law.

Enforceability of Shareholders' Rights

There has not been any public disclosure in relation to the enforcement by holders of H shares of their rights under constitutive documents of joint stock limited companies or the PRC Company Law or in the application or interpretation of the PRC or Hong Kong regulatory provisions applicable to PRC joint stock limited companies.

In most states of the United States, shareholders may sue a corporation "derivatively". A derivative suit involves the commencement by a shareholder of a corporate cause of action against persons (including corporate officers, directors or controlling shareholders) who have allegedly wronged the corporation, where the corporation itself has failed to enforce such claim against such persons directly. Such action is brought based upon a primary right of the corporation, but is asserted by a shareholder on behalf of the corporation. The PRC company law as amended in October 2005 and effective in January 2006 has also granted shareholders with the rights to bring such derivative suits.

Our articles of association provide that all differences or claims, arising from any provision of our articles of association, any right or obligation conferred or imposed by the PRC Company Law or any other relevant law or administrative regulation which concerns our affairs:

- between a holder of overseas-listed foreign-invested shares and us;
- between a holder of overseas-listed foreign-invested shares and any of our directors, supervisors, general managers, deputy general managers or other senior officers; or
- between a holder of overseas-listed foreign-invested shares and a holder of domestic ordinary shares

must be referred to arbitration at either the China International Economic and Trade Arbitration Commission in the PRC or the Hong Kong International Arbitration Center, and the laws of the PRC shall apply, save as otherwise provided in the laws and administrative regulations. Our articles of association provide that such arbitration will be final and conclusive. In June 1999, an arrangement was made between the People's Courts of the PRC and the courts of Hong Kong to mutually enforce arbitration rewards rendered in the PRC and Hong Kong according to their respective laws. This new arrangement was approved by the Supreme Court of the PRC and the Hong Kong Legislative Council and became effective on February 1, 2000. We have provided an undertaking to the United States Securities and Exchange Commission that, at such time, if any, as all applicable laws and regulations of the PRC and (unless our H shares are no longer listed on the Hong Kong Stock Exchange) all applicable regulations of the Stock Exchange of Hong Kong Ltd. shall not prohibit, and to the extent Section 14 under the United States Securities Act of 1933, as amended, so requires, our board of directors shall propose an amendment to the articles of association which would permit shareholders to adjudicate disputes arising between our shareholders and us, our directors, supervisors or officers by means of judicial proceedings.

The holders of H shares will not be able to bring actions on the basis of violations of the Listing Rules and must rely on the Hong Kong Stock Exchange to enforce its rules. The SDI Ordinance establishes certain obligations in relation to disclosure of shareholder interests in Hong Kong listed companies, the violation of which is subject to prosecution by the Securities and Futures Commission of Hong Kong. The Hong Kong Takeovers and Repurchase Codes do not have the force of law and are only standards of commercial conduct considered acceptable for takeover and merger transactions and share repurchases in Hong Kong as established by the Securities and Futures Commission and the securities and futures industry in Hong Kong.

We have appointed our representative office, located at 515 Madison Avenue, Suite 27 West, New York, NY 10022, USA, as our agent to receive service of process with respect to any action brought against us in certain courts in New York under the United States federal and New York State's securities laws. However, as the PRC does not have treaties providing for the reciprocal recognition and enforcement of judgments of courts within the United States, the United Kingdom, Japan or most other the Organization for Economic Cooperation and Development countries, administrative actions brought by regulatory authorities, such as the Commission, and other actions which result in foreign court judgments, could (assuming such actions are not required by PRC law and the articles of association to be arbitrated) only be enforced in the PRC on a reciprocal basis or according to relevant international treaty to which

China is a party if such judgments or rulings do not
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violate the basic principles of the law of the PRC or the sovereignty, security and public interest of the society of the PRC, as determined by a People's Court of the PRC which has the jurisdiction for recognition and enforcement of judgments. We have been advised by our PRC counsel, Haiwen & Partners, that there is certain doubt as to the enforceability in the PRC of actions to enforce judgments of United States courts arising out of or based on the ownership of H shares or ADSs, including judgments arising out of or based on the civil liability provisions of United States federal or state securities laws.

Restrictions on Transferability and the Share Register

As provided in the articles of associations we may refuse to register a transfer of H shares unless:

- any relevant transfer fee is paid;
- the instrument of transfer is only related to H shares listed in Hong Kong;
- the instrument of transfer is accompanied by the share certificates to which it relates, or such other evidence is given as may be reasonably necessary to show the right of the transferor to make the transfer;
- the stamp duty which is chargeable on the instrument of transfer has already been paid;
- if it is intended that the shares be transferred to joint owners, the maximum number of joint owners shall not be more than four (4); and
- the Company does not have any lien on the relevant shares.

We are required to keep a register of our shareholders which shall be comprised of various parts, including one part which is to be maintained in Hong Kong in relation to H shares to be listed on the Hong Kong Stock Exchange. Shareholders have the right to inspect and, for a nominal charge, to copy the share register. No transfers of ordinary shares shall be recorded in our share register within 30 days prior to the date of a shareholders' general meeting or within 5 days prior to the record date established for the purpose of distributing a dividend.

We have appointed HKSCC Registrars Limited to act as the registrar of our H shares. This registrar maintains our register of holders of H shares at our offices in Hong Kong and enters transfers of shares in such register upon the presentation of the documents described above.

C. MATERIAL CONTRACTS

We have not entered into any material contracts other than in the ordinary course of business and other than those described under "Item 4. Information on the Company", "Item 7 - Major Shareholders and Related Party Transactions" or elsewhere in this Form 20-F.

D. EXCHANGE CONTROLS

The existing foreign exchange regulations have significantly reduced government foreign exchange controls for transactions under the current account, including trade and service related foreign exchange transactions and payment of dividends. We may undertake current account foreign exchange transactions without prior approval from the State Administration of Foreign Exchange by producing commercial documents evidencing such transactions, provided that they are processed through Chinese banks licensed to engage in foreign exchange transactions. The PRC government has stated publicly that it intends to make the Renminbi freely convertible in the future. However, we cannot predict whether the PRC government will continue its existing foreign exchange policy and when the PRC government will allow free conversion of Renminbi to foreign currency.

Foreign exchange transactions under the capital account, including principal payments in respect of foreign currency-denominated obligations, continue to be subject to significant foreign exchange controls and require the approval of the State Administration of Foreign Exchange. These limitations could affect our ability to obtain foreign exchange through debt or equity financing, or to obtain foreign exchange for capital expenditures.

The exchange rate of the Renminbi against the U.S. dollar and other foreign currencies fluctuates and is affected by, among other things, the changes in the PRC's and international political and economic conditions. The PRC government has been gradually promoting the reform of exchange rate regime and enhance the flexibility of Renminbi exchange rate. On August 11, 2015, the PBOC decided to further improve the mechanism of RMB's central parity rate against the US dollar. Any fluctuation of exchange rate of the Renminbi against US dollars and Hong Kong dollars may have an effect on our revenues and financial condition, and the value of, and any dividends payable on, our ADSs in foreign currency terms. We cannot assure you that the fluctuation of exchange rate of the Renminbi against US dollars or other foreign currencies would not have a material and adverse effect on our operation and financial condition in the future. Information relating to the exchange risk, exchange rate and hedging activities is presented in "Item 11. Qualitative and Quantitative Disclosures about Market risk ¾ Foreign Exchange Rate Risk".

E. TAXATION

PRC Taxation

The following discussion addresses the principal PRC tax consequences of investing in the H shares or ADSs.

Taxation of Dividends

Individual Investors

According to the PRC Individual Income Tax Law, as amended, dividends paid by Chinese companies are ordinarily subject to a Chinese withholding tax levied at a flat rate of 20%. For a foreign individual who has no domicile and does not stay in the territory of China or who has no domicile but has stayed in the territory of China for less than one year, the receipt of dividends from a company in China is normally subject to a withholding tax of 20% unless reduced or exempted by an applicable tax treaties.

Foreign Enterprises

In accordance with the new Enterprise Income Tax Law and its implementation rules that became effective on January 1, 2008 and amended on February 24, 2017, dividends derived from the revenues accumulated from January 1, 2008 and are paid to non-resident enterprises, which are established under the laws of non-PRC jurisdictions and have no establishment or place of business in China or whose dividends from China do not relate to their establishment or place of business in China, are generally subject to a PRC withholding tax levied at a rate of 10% unless exempted or reduced pursuant to an applicable double-taxation treaty or other exemptions. Dividends paid by PRC companies to resident enterprises, including enterprises established under the laws of non-PRC jurisdictions but whose "de facto management body" is located in the PRC, are not subject to any PRC withholding tax, unless the investment income are derived from the publicly traded shares which have been held continuously by the resident enterprises for less than twelve months. Dividends, bonuses and other return based on equity investment that a non-resident enterprise with establishment or place of business in China receives from a resident enterprise and that have actual connection with such establishment or place of business are also exempted from any PRC withholding tax, except for investment income derived from the publicly traded shares which have been held continuously by the resident enterprises for less than 12 months. Chinese resident enterprises are required to withhold PRC enterprise income tax at the rate of 10% on dividends paid for 2009 and later years' earnings payable to their respective H Shares holders that are "non-resident enterprises," except for those holders whose dividend income is not subject to PRC enterprise income tax pursuant to PRC governmental approval.

Tax Treaties

Holders resident in countries which have entered into avoidance of double taxation treaties or arrangements with the PRC may be entitled to a reduction or exemption of the withholding tax imposed on the payment of dividends. Under a tax treaty between United States and China, China may tax dividends paid by Sinopec Corp. to eligible US Holders up to a maximum of 10% of the gross amount of such dividend. Under the tax treaty, an eligible US Holder is a person who, by reason of domicile, residence, place of head office, place of incorporation or any other criterion of similar nature is liable to tax in the United States, subject to a detailed "treaty shopping" provision.

Taxation of Capital Gains

In accordance with the new Enterprise Income Tax Law effective from January 1, 2008 and amended on January 8, 2011, and its implementation rules, capital gains realized by foreign enterprises which are non-resident enterprises in China upon the sale of overseas-listed shares are generally subject to a PRC withholding tax levied at a rate of 10%, unless exempted or reduced pursuant to an applicable double-taxation treaty or other exemptions. The capital gains realized by resident enterprises, including enterprises established under the laws of non-PRC jurisdictions but whose "de facto

management body" is located in the PRC, upon the sales of overseas-listed shares are subject to the PRC enterprise income tax.
PRC Stamp Tax Considerations
Under the Provisional Regulations of The People's Republic of China Concerning Stamp Tax, which was effective on October 1, 1988 and amended in January 2011, PRC stamp tax should not be imposed on the transfer of shares of H Shares or ADSs of PRC publicly traded companies.
United States Federal Income Tax Considerations
The following is a summary of United States federal income tax considerations relating to the ownership and disposition of our H shares or ADSs by a US Holder (as defined below). This summary is based upon existing United States federal income tax law, which is subject to differing interpretations or change, possibly with retroactive effect. This summary does not discuss all aspects of United States federal income taxation which may be important to particular investors in light of their individual investment circumstances, such as certain investors subject to special tax rules including: financial institutions, regulated investment companies, real estate investment trusts, broker-dealers, cooperatives, pension plans, insurance companies, traders in securities that elect mark-to-market treatment, partnerships and their partners, tax-exempt organizations (including private foundations), non-US Holders, holders who own (directly, indirectly, or constructively) 10% or more of the voting power or value of our stock, investors that hold H shares or ADSs as part of a straddle, hedge, conversion, constructive sale, or other integrated transaction for United States federal income tax purposes, holders who acquired their H shares or ADSs pursuant to any employee share option or otherwise as compensation, or US Holders that have a functional currency other than the United States dollar, all of whom may be subject to tax rules that differ significantly from those summarized below. In addition, this summary does not discuss any state, local, non-United States, alternative minimum tax, non-income tax (such as the U.S. federal estate and gift tax) or Medicare considerations. This summary assumes that our H shares or ADSs held by investors are "capital assets" (generally, property held for investment) under the United States Internal Revenue Code of 1986, as amended (Code). US Holders should consult their tax advisors regarding the United States federal, state, local, and non-United States income and other tax considerations relating to their ownership or disposition of our H shares or ADSs.
For purposes of this summary, a US Holder is a beneficial owner of H shares or ADSs that is, for United States federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation created in or organized under the laws of, the United States or any State thereof or the District of Columbia;
- an estate the income of which is includible in gross income for United States federal income tax purposes regardless of its source; or
- a trust (a) the administration of which is subject to the primary supervision of a United States court and which has one or more United States persons who have the authority to control all substantial decisions of the trust or (b) a trust that has otherwise elected to be treated as a United States person under the Code.

If a partnership (including any entity treated as a partnership for United States federal income tax purposes) is a beneficial owner of H shares or ADSs, the tax treatment of a partner in such partnership will depend upon the status of the partner and the activities of the partnership. Partners in a partnership holding our H shares or ADSs should consult their tax advisors regarding the United States federal income tax considerations relating to the investment in our H shares or ADSs.
For United States federal income tax purposes, it is generally expected that US Holders of ADSs will be treated as the beneficial owners of the underlying H shares represented by the ADSs. The remainder of this discussion assumes that a holder of ADSs will be treated in this manner. Accordingly, deposits or withdrawals of H shares for ADSs will generally not be subject to United States federal income tax.
Passive Foreign Investment Company Considerations
A non-United States corporation, such as our company, will be a "passive foreign investment company" (PFIC), for United States federal income tax purposes for any taxable year, if either (a) 75% or more of its gross income for such year consists of certain types of "passive" income or (b) 50% or more of its average quarterly assets as determined on the

basis of fair market value during such year produce or are held for the production of passive income. For this purpose, cash and assets readily convertible into cash are categorized as passive assets and the Company's goodwill and other unbooked intangibles associated with active business activities may generally be classified as active assets. We will be treated as owning a proportionate share of the assets and earning a proportionate share of the income of any other corporation in which we own, directly or indirectly, more than 25% (by value) of the stock.

We do not believe that we were classified as a PFIC for the taxable year ended December 31, 2016 and we do not expect to be classified as a PFIC for the current taxable year ending December 31, 2017. The determination of whether we will be or become a PFIC will depend, in part, upon the composition of our income and our assets (which are subject to change from year to year) and the market price of our H shares or ADSs (of which we cannot control). Although we do not expect that our business plans will change in a manner that will affect our PFIC status, no assurance can be given in this regard. Because there are uncertainties in the application of the relevant rules and PFIC status is a fact-intensive determination made on an annual basis, no assurance can be given that we will not be classified as a PFIC for any taxable year.

The discussion below under "Dividends" and "Sale or Other Disposition" of H shares or ADSs assumes that we will not be classified as a PFIC for United States federal income tax purposes. See the discussion below under the heading "Passive Foreign Investment Company Rules" for a brief summary of the PFIC rules.

Dividends

The gross amount of any cash distributions (including the amount of any tax withheld) paid on our H shares or ADSs out of our current or accumulated earnings and profits, as determined under United States federal income tax principles, will be subject to tax as dividend income on the day actually or constructively received by a US Holder, in the case of H shares, or by the depositary bank, in the case of ADSs. Because we do not intend to determine our earnings and profits on the basis of United States federal income tax principles, any distribution paid will generally be reported as a "dividend" for United States federal income tax purposes. A non-corporate recipient of dividend income will generally be subject to tax on dividend income from a "qualified foreign corporation" at a reduced capital gains rate rather than the marginal tax rates generally applicable to ordinary income provided that the holding period requirement is met.

A non-U.S. corporation (other than a corporation that is classified as a PFIC for the taxable year in which the dividend is paid or the preceding taxable year) generally will be considered to be a qualified foreign corporation (i) if it is eligible for the benefits of a comprehensive tax treaty with the United States which the Secretary of Treasury of the United States determines is satisfactory for purposes of this provision and which includes an exchange of information program or (ii) with respect to any dividend it pays on stock which is readily tradable on an established securities market in the United States. There is currently a tax treaty in effect between the United States and the People's Republic of China (U.S.-PRC Treaty) which the Secretary of Treasury of the United States determined is satisfactory for these purposes and we believe that we are eligible for the benefits of such treaty. Additionally, our ADSs trade on the New York Stock Exchange, an established securities market in the United States. Although we presently believe that we are a qualified foreign corporation for purposes of the reduced tax rate, no assurance can be given that we will continue to be treated as a qualified foreign corporation in the future. US Holders should consult their tax advisors regarding the availability of the reduced tax rate on dividends under their particular circumstances. Dividends received on H shares or ADSs will not be eligible for the dividends received deduction allowed to corporations.

Dividends paid in non-United States currency will be includible in income in a United States dollar amount based on the exchange rate prevailing at the time of receipt of such dividends by the depositary, in the case of ADSs, or by the US Holder, in the case of H shares held directly by such US Holder, regardless of whether the non-United States currency is actually converted into United States dollars at that time. Gain or loss, if any, recognized on a subsequent sale, conversion or other disposition of the non-United States currency will generally be United States source income or loss.

Dividends received on H shares or ADSs will be treated, for United States foreign tax credit purposes, as foreign source income. A US Holder may be eligible, subject to a number of complex limitations, to claim a foreign tax credit in respect of any non-United States withholding taxes imposed on dividends received on H shares or ADSs. US Holders who do not elect to claim a foreign tax credit for foreign income tax withheld may instead claim a deduction, for United States federal income tax purposes, in respect of such withholdings, but only for a year in which the US Holder elects to do so for all creditable foreign income taxes. US Holders should consult their tax advisors regarding the availability of the foreign tax credit under their particular circumstances.

Sale or Other Disposition of H shares or ADSs

A US Holder will recognize capital gain or loss upon the sale or other disposition of H shares or ADSs in an amount equal to the difference between the amount realized upon the disposition and the US Holder's adjusted tax basis in such H shares or ADSs. Any capital gain or loss will be long-term if the H shares or ADSs have been held for more than one year and will generally be United States source gain or loss for United States foreign tax credit purposes. If any PRC tax were to be imposed on any gain from the disposition of H shares or ADSs, however, a US Holder that is eligible for the benefits of the U.S.- PRC Treaty may elect to treat the gain as non-United States source gain or loss. The deductibility of a capital loss may be subject to limitations. The rules governing the foreign tax credit are complex and their outcome depends in large part on the US Holder's individual facts and circumstances. Accordingly, US Holders should consult their tax advisors regarding the availability of the foreign tax credit under their particular circumstances.

US Holders that receive currency other than the United States dollar upon the sale or other disposition of H shares will realize an amount equal to the United States dollar value of the non-United States currency on the date of such sale or other disposition, or if the shares are traded on an established securities market, in the case of cash basis and electing accrual basis taxpayers, the settlement date. US Holders will recognize currency gain or loss if the United States dollar value of the currency received on the settlement date differs from the amount realized. US Holders will have a tax basis in the currency received equal to the United States dollar amount at the spot rate on the settlement date. Generally, any gain or loss realized by US Holders on a subsequent conversion or disposition of such currency will be United States source ordinary income or loss.

Passive Foreign Investment Company Rules

If we were to be classified as a PFIC in any taxable year, a special tax regime will apply to both (a) any "excess distribution" by us to a US Holder (generally, the US Holder's ratable portion of distributions in any year which are greater than 125% of the average annual distribution received by such US Holder in the shorter of the three preceding years or the US Holder's holding period for our H shares or ADSs) and (b) any gain realized on the sale or other disposition of the H shares or ADSs. Under this regime, any excess distribution and realized gain will be treated as ordinary income and will be subject to tax as if (a) the excess distribution or gain had been realized ratably over the US Holder's holding period, (b) the amount deemed realized in each year had been subject to tax in each year of that holding period at the highest marginal rate for such year (other than income allocated to the current period or any taxable period before we became a PFIC, which would be subject to tax at the US Holder's regular ordinary income rate for the current year and would not be subject to the interest charge discussed below), and (c) the interest charge generally applicable to underpayments of tax had been imposed on the taxes deemed to have been payable in those years. In addition, dividends made to a US Holder will not qualify for the lower rates of taxation applicable to long-term capital gains discussed above under "Dividends."

If a "mark-to-market" election is available and a US Holder validly makes such an election, notwithstanding the foregoing, such a holder generally will be required to take into account the difference, if any, between the fair market value and its adjusted tax basis in H shares or ADSs at the end of each taxable year as ordinary income or ordinary loss (to the extent of any net mark-to-market gain previously included in income). In addition, any gain from a sale or other disposition of H shares or ADSs will be treated as ordinary income, and any loss will be treated as ordinary loss (to the extent of any net mark-to-market gain previously included in income).

Because a mark-to-market election cannot be made for any lower-tier PFICs that we may own, a US Holder may continue to be subject to the PFIC rules with respect to such US Holder's indirect interest in any investments held by us that are treated as an equity interest in a PFIC for United States federal income tax purposes.

We do not intend to provide information necessary for US Holders to make qualified electing fund elections which, if available, would result in tax treatment different from (and generally less adverse than) the general tax treatment for PFICs described above.

Each US Holder is urged to consult its tax advisor concerning the United States federal income tax consequences of holding and disposing H shares or ADSs if we are or become treated as a PFIC, including the possibility of making a mark-to-market election, the "deemed sale" and "deemed dividend" elections and the unavailability of the election to treat us as a qualified electing fund.

Withholding Tax and Information Reporting

Certain US Holders are required to report information relating to an interest in “specified foreign financial assets,” including shares issued by a non-United States corporation, for any year in which the aggregate value of all specified foreign financial assets exceeds US$50,000, subject to certain exceptions (including an exception for ordinary shares held in custodial accounts maintained with a United States financial institution). A US Holder who fails to timely furnish the required information may be subject to a penalty. In addition, information reporting generally will apply to dividends on and proceeds from the sale or other disposition of our H shares or ADSs. US withholding tax is generally inapplicable to dividends on or proceeds from the sale or other disposition of our H shares or ADSs (provided that various certification requirements have been met). US Holders are advised to consult with their tax advisors regarding the application of the United States information reporting and withholding rules.

F. DIVIDENDS AND PAYING AGENTS

Not applicable.

G. STATEMENT BY EXPERTS

Not applicable.

H. DOCUMENTS ON DISPLAY

This annual report contains exhibits and schedules. Any statement in this annual report about any of our contracts or other documents is not necessarily complete. If the contract or document is filed or incorporated by reference as an exhibit to this annual report, the contract or document is deemed to modify the description contained in this annual report. You must review the exhibits themselves for a complete description of the contracts or documents.

Copies of reports and other information, when so filed, may be inspected without charge and may be obtained at prescribed rates at the public reference facilities maintained by the SEC at Judiciary Plaza, 450 Fifth Street, Room 1024, NW, Washington, D.C. 20549; or at New York (address: 233 Broadway, New York, NY 10279) and Chicago (address: Citicorp Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661). Copies of the above materials may also be obtained from the Public Information Department of SEC at 450 Fifth Street, NW, Washington DC 20549, charges as appropriate. You may also view the registration statement (including attachments and schedules) at the New York Stock Exchange at Wall Street, New York, NY 10005. The public may obtain information regarding the Washington, D.C. Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site at www.sec.gov. As a foreign private issuer, we are exempt from the rules under the Exchange Act prescribing the furnishing and content of quarterly reports and proxy statements, and officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act.

I. SUBSIDIARY INFORMATION

Not applicable.

ITEM 11. QUALITATIVE AND QUANTITATIVE DISCLOSURES ABOUT MARKET RISK

Our primary market risk exposures are to fluctuations in oil and gas prices, exchange rates and interest rates. Please also refer to Note 34 to the consolidated financial statements included elsewhere in this annual report for a detailed discussion of other market risks that we have exposure to.

Commodity Price Risk

We engage in oil and gas operations and are exposed to commodity price risk related to price volatility of crude oil and refined oil products. The fluctuations in prices of crude oil and refined oil products could have significant impact on us. We use derivative financial instruments, including commodity futures and swaps, to manage a portion of this risk. As of December 31, 2016, we had certain commodity contracts that qualify as cash flow and economic hedging and protection instruments. The fair market value of our assets and liabilities for these financial derivatives are RMB 0.312 billion and RMB 4.336 billion, respectively.

As of December 31, 2016, it is estimated that a general increase/decrease of US$10 per barrel in crude oil and refined oil products, with all other variables held constant, would decrease/increase our net income and retained earnings by approximately RMB 0.634 billion, and decrease/increase our other reserves by approximately RMB 4.007 billion. This sensitivity analysis has been determined assuming that the change of prices was applied to our derivative financial instruments at balance sheet date with exposure to commodity price risk.

Foreign Exchange Rate Risk

The Renminbi is not a freely convertible currency. With the authorization from the PRC government, the PBOC announced that the PRC government reformed the exchange rate regime by moving into a managed floating exchange rate regime based on market supply and demand with reference to a basket of currencies on July 21, 2005. The PRC government has been gradually promoting the Renminbi exchange rate formation mechanism to enhance the flexibility of Renminbi exchange rate. On August 11, 2015, the PBOC decided to further improve the mechanism of RMB's central parity rate against the US dollar. Actions taken by the PRC government could cause future exchange rates to vary significantly from current or historical exchange rates. Fluctuations in exchange rates may adversely affect the value, translated or converted into US dollars or Hong Kong dollars, of our net assets, earnings and any declared dividends. We cannot give any assurance that any future movements in the exchange rate of the Renminbi against the US dollar and other foreign currencies will not adversely affect our results of operations and financial condition.

The following presents various market risk information regarding market-sensitive financial instruments that we held or issued as of December 31, 2015 and 2016. We conduct our business primarily in Renminbi, which is also our functional and reporting currency.

The following tables provide information regarding instruments that are sensitive to foreign exchange rates as of December 31, 2015 and 2016. For debt obligations, the table presents cash flows and related weighted average rates by expected maturity dates.

(RMB equivalent in millions, except interest rate)

	As of December 31, 2016							
	Expected Maturity Date						Total carrying amount	Fair value
	2017	2018	2019	2020	2021	Thereafter		
Assets								
Cash and cash equivalent								
In US Dollar	20,745	-	-	-	-	-	20,745	20,745
In HK Dollar	82	-	-	-	-	-	82	82
In Japanese Yen	12	-	-	-	-	-	12	12
In Euro	41	-	-	-	-	-	41	41
Others	66	-	-	-	-	-	66	66
Time deposits with financial institutions								
In US Dollar	7,843	-	-	-	-	-	7,843	7,843
Liabilities								
Debts in US Dollar								
Fixed rate	42	6,944	25	25	283	12,091	19,410	19,289
Average interest rate	1.40 %	0.94 %	1.41%	1.41%	4.07%	1.11 %		
Variable rate	14,591	-	-	-	-	-	14,591	14,584
Average interest rate(1)	1.40 %	-	-	-	-	-		
Debts in HK Dollar								
Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	1,969	-	-	-	-	-	1,969	1,969
Average interest rate(1)	1.68 %	-	-	-	-	-		
Debts in Euro								
Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	5	-	-	-	-	-	5	5
Average interest rate(1)	0.68 %	-	-	-	-	-		
Debts in Singapore Dollar								

Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	21	-	-	-	-	-	21	21
Average interest rate[(1)]	1.5 %	-	-	-	-	-		

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2016.

(RMB equivalent in millions, except interest rate)

	As of December 31, 2015							
	Expected Maturity Date						Total carrying amount	Fair value
	2016	2017	2018	2019	2020	Thereafter		
Assets								
Cash and cash equivalent								
In US Dollar	12,481	-	-	-	-	-	12,481	12,481
In HK Dollar	101	-	-	-	-	-	101	101
In Japanese Yen	8	-	-	-	-	-	8	8
In Euro	39	-	-	-	-	-	39	39
Others	52	-	-	-	-	-	52	52
Time deposits with financial institutions								
In US Dollar	649	-	-	-	-	-	649	649
Liabilities								
Debts in US Dollar								
Fixed rate	13,033	40	6,493	25	25	11,577	31,193	30,417
Average interest rate	1.01 %	1.38%	1.88 %	1.41%	1.41%	3.48 %		
Variable rate	36,777	-	-	-	-	-	36,777	36,777
Average interest rate(1)	1.14 %	-	-	-	-	-		
Debts in HK Dollar								
Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	5	-	-	-	-	-	5	5
Average interest rate(1)	1.80 %	-	-	-	-	-		
Debts in Euro								
Fixed rate	4	-	-	-	-	-	4	4
Average interest rate	0.68 %	-	-	-	-	-		
Variable rate	7,855	-	-	-	-	-	7,855	7,855
Average interest rate(1)	0.49 %	-	-	-	-	-		

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2015.

Interest Rate Risk

We are exposed to interest rate risk resulting from fluctuations in interest rates on our short-term and long-term debts. Upward fluctuations in interest rates increase the cost of new debt and the interest cost of outstanding floating rate borrowings.

Our debts consist of fixed and variable rate debt obligations with original maturities ranging from one to thirty years. Fluctuations in interest rates can lead to significant fluctuations in the fair values of our debt obligations.

The following tables present principal cash flows and related weighted average interest rates by expected maturity dates of our interest rate sensitive financial instruments as of December 31, 2015 and 2016.

(RMB equivalent in millions, except interest rate)

As of December 31, 2016

Expected Maturity Date

	2017	2018	2019	2020	2021	Thereafter	Total carrying amount(2)	Fair value
Assets								
Cash and cash equivalent								
In RMB	103,522	-	-	-	-	-	103,522	103,522
In US Dollar	20,745	-	-	-	-	-	20,745	20,745

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In HK Dollar	82	-	-	-	-	-	82	82
In Japanese Yen	12	-	-	-	-	-	12	12
In Euro	41	-	-	-	-	-	41	41
Others	66	-	-	-	-	-	66	66
Time deposits with financial institutions								
In RMB	10,186	-	-	-	-	-	10,186	10,186
In US Dollar	7,843	-	-	-	-	-	7,843	7,843
Liabilities								
Debts in RMB								
Fixed rate	40,904	19,614	5,353	15,533	40,161	7,711	129,276	127,737
Average interest rate	2.21 %	2.78 %	1.67 %	2.00 %	0.43 %	1.92 %		
Variable rate	17,288	320	8,105		168	1,113	26,993	26,993
Average interest rate[1]	3.4 %	4.35 %	4.28 %		4.41 %	4.41 %		
Debts in US Dollar								
Fixed rate	42	6,944	25	25	283	12,091	19,410	19,289
Average interest rate	1.40 %	0.94 %	1.41 %	1.41 %	4.07 %	1.11 %		
Variable rate	14,591	-	-	-	-	-	14,591	14,584
Average interest rate[1]	1.40 %	-	-	-	-	-		
Debts in HK Dollar								
Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	1,969	-	-	-	-	-	1,969	1,969
Average interest rate[1]	1.68 %	-	-	-	-	-		
Debts in Euro								
Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	5	-	-	-	-	-	5	5
Average interest rate[1]	0.68 %	-	-	-	-	-		
Debts in Singapore Dollar								
Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	21	-	-	-	-	-	21	21
Average interest rate[1]	1.5 %	-	-	-	-	-		

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2016.

(2) Carrying amounts are used for loans from Sinopec Group Company and its affiliates as it is not practicable to estimate their fair values because the cost of obtaining discount and borrowing rates for comparable borrowings would be excessive.

(RMB equivalent in millions, except interest rate)

	As of December 31, 2015							
	Expected Maturity Date						Total carrying amount[2]	Fair value
	2016	2017	2018	2019	2020	Thereafter		
Assets								

Cash and cash equivalent								
In RMB	56,252	-	-	-	-	-	56,252	56,252
In US Dollar	12,481	-	-	-	-	-	12,481	12,481

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In HK Dollar	101	-	-	-	-	-	101	101
In Japanese Yen	8	-	-	-	-	-	8	8
In Euro	39	-	-	-	-	-	39	39
Others	52	-	-	-	-	-	52	52
Time deposits with financial institutions								
In RMB	84	-	-	-	-	-	84	84
In US Dollar	649	-	-	-	-	-	649	649
Liabilities								
Debts in RMB								
Fixed rate	40,234	29,670	17,251	-	13,000	43,096	143,251	141,583
Average interest rate	2.08 %	2.98 %	3.30 %	-	2.11 %	0.34 %		
Variable rate	17,538	8,778	8,935	103	103	650	36,107	36,107
Average interest rate(1)	4.12 %	3.07 %	3.16 %	4.39%	4.39 %	4.41 %		
Debts in US Dollar								
Fixed rate	13,033	40	6,493	25	25	11,577	31,193	30,417
Average interest rate	1.01 %	1.38 %	1.88 %	1.41%	1.41 %	3.48 %		
Variable rate	36,777	-	-	-	-	-	36,777	36,777
Average interest rate(1)	1.14 %	-	-	-	-	-		
Debts in HK Dollar								
Fixed rate	-	-	-	-	-	-	-	-
Average interest rate	-	-	-	-	-	-		
Variable rate	5	-	-	-	-	-	5	5
Average interest rate(1)	1.80 %	-	-	-	-	-		
Debts in Euro								
Fixed rate	4	-	-	-	-	-	4	4
Average interest rate	0.68 %	-	-	-	-	-		
Variable rate	7,855	-	-	-	-	-	7,855	7,855
Average interest rate(1)	0.49 %	-	-	-	-	-		

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2015.

(2) Carrying amounts are used for loans from Sinopec Group Company and its affiliates as it is not practicable to estimate their fair values because the cost of obtaining discount and borrowing rates for comparable borrowings would be excessive.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. Debt Securities

Not applicable.

B. Warrants and Rights

Not applicable.

C. Other Securities

Not applicable.

D. American Depositary Shares

Depositary Fees and Charges

Under the terms of the Deposit Agreement for China Petroleum & Chemical Corporation's American Depositary Shares (ADSs), an ADS holder may have to pay the following services fees to the Depositary:

Services	Fees
Issuance of ADSs	US$5.00 (or less) per 100 ADSs (or portion of 100 ADSs) issued
Cancellation of ADSs	

	US$5.00 (or less) per 100 ADSs (or portion of 100 ADSs) canceled
Distribution of cash dividends or other cash distributions	US$2.00 (or less) per 100 ADSs (or portion of 100 ADSs) held
Distribution of ADSs pursuant to stock dividends, free stock distributions or exercises of rights	US$5.00 (or less) per 100 ADSs (or portion of 100 ADSs) held

Distribution of securities other than ADSs or rights to purchase additional ADSs	US$5.00 (or less) per 100 ADSs (or portion of 100 ADSs) held

An ADS holder will also be responsible to pay certain fees and expenses incurred by the Depositary and certain taxes and governmental charges such as:

- Taxes (including relevant interests and fines) and other governmental charges;
- such registration fees as may from time to time be in effect, for the registration of deposited securities in the register of members, or for the registration of transfers of deposited securities to the name of the Depositary or its nominee or the Custodian or its nominee on the making of deposits or withdrawals;
- such cable, telex and facsimile transmission expenses as are expressly provided in the Deposit Agreement;
- such expenses as are incurred by the Depositary in the conversion of foreign currency;
- such expenses as are incurred with the compliance with the foreign currency control, ADSs and other deposited securities related laws, regulations and rules; and
- any other charge payable by the Depositary, any of the Depositary's agents, including the Custodian, Depositary, or the agents of the Custodian or Depositary, in connection with the servicing of deposited securities.

Depositary Payments for the Year 2016

In 2016, Citibank, N.A., the Depositary for our ADR program, provided reimbursement for our expenses related to the listing and investor' relations activities as follows:

- reimbursement of application fees: US$149,537.24
- reimbursement of data infrastructure fees: US$5,234.81
- reimbursement of proxy procedure fees: US$66,576.95
- reimbursement of investor relations expenses (including expenses related to non-deal road show, investor meeting and investor relations agency): US$208,953.02
- the accounting committee and accounting standard committee of public company: US$34,394.21
- Total: US$464,696.23

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

A. MATERIAL MODIFICATIONS TO THE RIGHTS TO SECURITIES HOLDERS

None.

B. USE OF PROCEEDS

Not applicable.

ITEM 15. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure the information required to be disclosed in reports filed by us under the U.S. Securities Exchange Act of 1934 (Exchange Act), as amended, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that such information is accumulated and communicated to our management, including our principal executive officer and principal officer, as appropriate, to allow for timely decisions regarding required disclosure. Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) as of December 31, 2016 (Evaluation Date), the end of the fiscal year covered by this annual report. Based on this evaluation, our principal executive officer and principal financial officer have concluded that, as of the Evaluation Date, our disclosure controls and procedures were effective.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) of the Securities Exchange Act of 1934). The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting based upon the criteria established in Internal Control -- Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission as of December 31, 2016. Based on that evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2016 based on these criteria.

PricewaterhouseCoopers Zhong Tian LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this annual report on Form 20-F and, as part of the audit, has issued a report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

During the year ended December 31, 2016, there have been no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. RESERVED

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

The board of directors has determined that Mr. Andrew Y. Yan qualifies as an audit committee financial expert in accordance with the terms of Item 16.A of Form 20-F. Mr. Yan was appointed as an independent non-executive director and a manager of the audit committee of the sixth board of our company in 2016. For Mr. Yan's biographical information, see "Item 6 Directors, Senior Management and Employees – A. Directors, members of the supervisory committee and senior management."

ITEM 16B. CODE OF ETHICS

Our controlling shareholder, Sinopec Group Company, has adopted a Staff Code to provide disciplines and requirements for its staff's conducts, including legal and ethical matters as well as the sensitivities involved in reporting illegal and unethical matters. The Staff Code covers such areas as HSE, conflict of interests, anti-corruption, protection and proper use of our assets and properties as well as reporting requirements. The Staff Code also applies to all directors, officers and employees of each subsidiary of Sinopec Group Company, including us. We have provided all our directors and senior officers with a copy of the Staff Code and require them to comply with it in order to ensure our operations are proper and lawful. We have posted the Staff Code on our website, http://www.sinopec.com/listco/en/Resource/Pdf/ygsz2014b.pdf.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table sets forth the aggregate audit fees, audit-related fees, tax fees of our principal accountants and all other fees billed for products and services provided by our principal accountants other than the audit fees, audit-related fees and tax fees for each of the fiscal years 2015 and 2016.

	Audit Fees	Audit-Related Fees	Tax Fees	Other Fees
2015	RMB 64 million	—	—	—
2016	RMB 73 million	—	—	RMB 2 million

We are only allowed to engage our principal accountants to render audit or non-audit services, after the engagement has been approved by our audit committee.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

None.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

None.

ITEM 16G. COMPARISON OF NEW YORK STOCK EXCHANGE CORPORATE GOVERNANCE RULES AND CHINA CORPORATE GOVERNANCE RULES FOR LISTED COMPANIES

Under the amended Corporate Governance Rules of the NYSE, foreign issuers (including us) listed on the NYSE are required to disclose a summary of the significant differences between their domestic corporate governance rules and NYSE corporate governance rules that would apply to a U.S. domestic issuer. A summary of such differences is listed below:

NYSE corporate governance rules	Corporate governance rules applicable to the domestically listed companies in China and the Company's governance practices
Corporate governance guidelines Listed companies must adopt and disclose corporate governance guidelines, involving director responsibilities, director compensation, director continuing education, annual performance evaluation of the board of directors, etc.	PRC corporate governance rules promulgated by China Securities Regulatory Commission prescribe detailed guidelines on directors of the listed companies, including director selection, the structure of the board of directors and director performance evaluation etc. The Company has complied with the above mentioned laws or rules.
Director Independence A listed company must have a majority of independent directors on its board of directors. No director qualifies as "independent" unless the board of directors affirmatively determines that the director has no material relationship with the listed company (either directly or as a partner, shareholder or officer of an organization that has a relationship with the	It is required in China that any listed company must establish an independent director system and set forth specific requirements for the qualification of independent directors. For example, an independent director shall not hold any other position in the listed company other than being a director and shall not be influenced by the main shareholders or the controlling

company). In addition, a director must meet certain standards to be deemed independent. For example, a director is not independent if the director is, or has been within the last three years, an employee of the listed company, or an immediate family member is, or has been within the last three years, an executive officer of the listed company, or if the director has received, or has an immediate family member who has received, during any twelve-month period within the last three years, more than US$120,000 in direct compensation from the listed company, other than director and committee fees and pension or other forms of deferred compensation for prior service (provided such compensation is not contingent in any way on continued service).	persons of the listed company, or by any other entities or persons with whom the listed company has a significant relationship. The Company has complied with the relevant Chinese corporate governance rules and has implemented internal rules governing the independence and responsibilities of independent directors. The Company determines the independence of independent directors every year.
To empower non-management directors to serve as a more effective check on management, the non-management directors of each listed company must meet at regularly scheduled executive sessions without management.	No similar requirements.
Nominating/Corporate Governance Committee	
Listed companies must have a nominating/corporate governance committee composed entirely of independent directors.	It is stipulated in China that the board of directors of a listed company may, through the resolution of the shareholders' meeting, establish a nominating committee composed entirely of directors, of which the independent directors shall be the majority and the convener. Up to now, the Company has not set up any nominating committee.
The nominating/corporate governance committee must have a written charter that addresses the committee's purposes and responsibilities which, at minimum, must be to: search for eligible people for the board of directors, select and nominate directors for the next session of the shareholders' annual meeting, study and propose corporate governance guidelines, supervise the evaluation of the board of directors and management, and evaluate the performance of the committee every year.	Relevant responsibilities of the nominating/corporate governance committee are similar to those stipulated by the NYSE rules, but the main responsibilities do not include the research and recommendation of corporate governance guidelines, the supervision of the evaluation of the board of directors and management, or the annual evaluation of the committee.
Compensation Committee	
Listed companies must have a compensation committee composed entirely of independent directors.	It is stipulated in China that the board of directors of a listed company may, subject to shareholders' resolution, have a compensation and assessment committee composed entirely of directors, of whom the independent directors are the majority and act as the convener.
The compensation committee must have a written charter that addresses, at least, the following purposes and responsibilities: (1) review and approve the corporate goals associated with CEO's compensation, evaluate the performance of the CEO in fulfilling these	It is stipulated in China that the responsibilities of the compensation committee are:

goals, and, either as a committee or together with the other independent directors (as directed by the board), based on such evaluation, determine and approve the CEO's compensation level;	(1) to review evaluation standards on the performance of directors and the senior management and submit suggestion to the board of directors; (2) to review compensation policies on the directors and the senior management. But the committee is not required to produce a report on the executive compensation or make an annual

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(2) make recommendations to the board with respect to non-CEO executive officer compensation, and incentive-compensation and equity-based plans that are subject to board approval; (3) produce a committee report on executive compensation as required by the SEC to be included in the annual proxy statement or annual report filed with the SEC. The charter must also include the requirement for an annual performance evaluation of the compensation committee. The compensation committee may, in its sole discretion, retain or consult a compensation consultant, independent legal counsel or other advisor. The compensation committee shall be directly responsible for the appointment, compensation and oversight of the work of such advisor. A listed company must provide for appropriate funding for payment of reasonable compensation to such advisor. The compensation committee may select such advisor to the compensation committee only after taking into consideration all factors relevant to that person's independence from management.	performance evaluation of the committee. The board of directors of the Company has established a compensation and performance evaluation committee composed mainly of independent directors who act as the convener, and the committee has established a written charter complying with the domestic corporate governance rules.
Audit Committee Listed companies must have an audit committee that satisfies the requirements of Rule 10A-3 of Securities Exchange Act of 1934 (Exchange Act). It must have a minimum of three members, and all audit committee members must satisfy the requirements for independence set forth in Section 303A.02 of NYSE Corporate Governance Rules as well as the requirements of Rule 10A-3(b)(1) of the Exchange Act.	It is stipulated in China that the board of directors of a listed company may, subject to shareholders' resolution, establish an audit committee composed entirely of competent directors with expertise and business experience, of which the independent directors are the majority and act as the convener, and, at minimum, one independent director is an accounting professional.
The audit committee must have a written charter that specifies the purpose of the audit committee is, at minimum, to assist the board oversight of the integrity of financial statements, the company's compliance with legal and regulatory requirements, qualifications and independence of independent auditors and the performance of the listed company's internal audit function and independent auditors. In addition, the written charter must require the audit committee to prepare an audit committee report as required by the SEC to be included in the listed company's annual proxy statement as well as an annual performance evaluation of the audit committee. The written charter must also specify the duties and responsibilities of the audit committee, which, at a minimum, must include those set out in Rule 10A-3(b)(2), (3), (4) and (5) of the Exchange Act, as well as other duties and responsibilities such as to obtain and review a report by the independent auditor at least annually, meet to review and discuss the listed company's annual audited financial statements and quarterly financial statements with management and independent auditor.	The responsibilities of the audit committee are similar to those stipulated by the NYSE rules. The board of directors shall evaluate the independence and performance of members of the audit committee periodically, and may replace any member who is no longer suitable for the position. The company shall disclose the performance of the audit committee in its annual report, including meetings convened by the audit committee. The Board of Directors of the Company has established an audit committee that satisfies relevant domestic and overseas requirements and the audit committee has a written charter.

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Each listed company must have an internal audit department.	China has a similar regulatory provision, and the Company has an internal audit department.
Shareholder approval of equity compensation plan	
Shareholders must be given the opportunity to vote on all equity-compensation plans and material revisions thereto, except for, among others, plans that are made available to shareholders generally, such as typical dividend reinvestment plan and certain awards and plans in the context of mergers and acquisitions.	The relevant regulations of China require the board of directors propose plans on the amount and types of director compensation for the shareholders' meeting to approve. The compensation plan of executive officers shall be approved by the board and disclosed to the public. The Company has complied with the above mentioned laws or rules.
Code of ethics for directors, officers and employees	
Listed companies must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers. Each code of business conduct and ethics must require that any waiver of the code for executive officers or directors may be made only by the board or a board committee.	China does not have such requirement for a code for ethics. But our controlling shareholder, Sinopec Group Company, adopted a Staff Code in 2015 to provide disciplines and requirements for its staff's conducts, including legal and ethical matters as well as the sensitivities involved in reporting illegal and unethical matters. The Staff Code covers such areas as HSE, conflict of interests, anti-corruption, protection and proper use of our assets and properties as well as reporting requirements. The Staff Code also applies to all directors, officers and employees of each subsidiary of Sinopec Group Company, including us. In addition, the directors and officers must perform their legal responsibilities in accordance with the Company Law of PRC, relative requirements of CSRS and Mandatory Provisions to the Charter of Companies Listed Overseas. Meanwhile, the Company establishes The Model Code of Securities Transactions by Corporate Employees and The Rules of The Company's Shares Transactions by Corporate Directors, Superiors and Senior Managements to regulate the above mentioned people when transacting related securities. The Company also promulgated the Code for Employees of the Company as the standards of business conduct and ethics of the employees.
Each listed company CEO must certify to the NYSE each year that he or she is not aware of any violation by the listed company of NYSE corporate governance listing standards and he or she must promptly notify the NYSE in writing of any non-compliance with any applicable provisions of Section 303A.	No similar requirements.
Board of Supervisors	
Listed companies are not required to have a board of supervisors.	PRC corporate governance rules promulgated by China Securities Regulatory Commission prescribe that the board of supervisors of listed companies is responsible for supervising the compliance of the company's financial affairs

and the directors, managers and other senior executives of the company, and safeguarding the legitimate rights and interests of the company and the shareholders. The rules also provided detailed requirements in respect of the board of supervisors of listed companies, including its duties, composition, meeting procedures, etc.

The Company has complied with the above rules.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

See consolidated financial statements included in this annual report following Item 19.

ITEM 19. EXHIBITS

1**	Articles of Association of the Registrant, amended and adopted by the shareholders' meeting on May 22, 2009 (English translation), incorporated by reference to Exhibit 1.2 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 30, 2010 (File Number: 001-15138).
1.1**	Amendment to Articles of Association of China Petroleum & Chemical Corporation, adopted by the shareholders' meeting on May 11, 2012 (English translation), incorporated by reference to Exhibit 1.1 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 11, 2013 (File Number: 001-15138).
1.2**	Amendment to Articles of Association of China Petroleum & Chemical Corporation, adopted by the shareholders' meeting on October 16, 2012 (English translation), incorporated by reference to Exhibit 1.2 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 11, 2013 (File Number: 001-15138).
1.3**	Amendment to Articles of Association of China Petroleum & Chemical Corporation, adopted by the shareholders' meeting on May 29, 2013 (English translation), incorporated by reference to Exhibit 1.3 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 22, 2014 (File Number: 001-15138).
1.4**	Amendment to Articles of Association of China Petroleum & Chemical Corporation, adopted by the shareholders' meeting on May 9, 2014 (English translation).
1.5*	Amendment to Articles of Association of China Petroleum & Chemical Corporation, adopted by the shareholders' meeting on May 27, 2015 (English translation), incorporated by reference to Exhibit 1.5 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 20, 2016 (File Number: 001-15138).
4.1**	Forms of Director Service Contracts dated May 11, 2012 (English translation), , incorporated by reference to Exhibit 4.1 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 11, 2013 (File Number: 001-15138).
4.2**	Forms of Supervisor Service Contracts dated May 11, 2012 (English translation), , incorporated by reference to Exhibit 4.2 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 11, 2013 (File Number: 001-15138).
4.3**	Reorganization Agreement between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.1 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).

4.4**	Agreement for Mutual Provision of Products and Ancillary Services between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.3 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).

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4.5**	Agreement for Provision of Cultural, Educational, Hygiene and Community Services between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.4 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.6**	Trademark License Agreement between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.6 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.7**	Patents and Proprietary Technology License Contract between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.7 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.8**	Computer Software License Contract between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.8 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.9**	Assets Swap Contract between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.9 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.10**	Land Use Rights Leasing Contract between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.10 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.12**	Property Leasing Contract between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 (including English translation), incorporated by reference to Exhibit 10.11 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.13**	Accounts Collectable Contract between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 16, 2000 (including English translation), incorporated by reference to Exhibit 10.17 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.14**	Loan Transfer and Adjustment Contract between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 16, 2000 (including English translation), incorporated by reference to Exhibit 10.18 to our Registration Statement on Form F-1 filed with the Securities and Exchange Commission on October 10, 2000 (File Number: 333-12502).
4.15**	Agreement on Adjustment to Related Party Transactions between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 11, 2001 (English translation), incorporated by reference to Exhibit 4.15 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 13, 2007 (File Number: 001-15138).
4.16**	

	Land Use Right Leasing Agreement between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 22, 2003 (English translation), incorporated by reference to Exhibit 4.16 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 13, 2007 (File Number: 001-15138).
4.17**	2004 Agreement on Adjustment to Related Party Transactions between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated October 31, 2004 (English translation) , incorporated by reference to Exhibit 4.17 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 13, 2007 (File Number: 001-15138).

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4.18**	Memorandum on Adjustment of Rent of Land Use Rights between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated March 31, 2006 (English translation) , incorporated by reference to Exhibit 4.18 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 13, 2007 (File Number: 001-15138).
4.19**	Supplemental Agreement on Related Party Transactions between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated March 31, 2006 (English translation) , incorporated by reference to Exhibit 4.19 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 13, 2007 (File Number: 001-15138).
4.19.1**	Continuing Connected Transactions Second Supplemental Agreement between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 21, 2009 (English translation), incorporated by reference to Exhibit 4.21 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 30, 2010 (File Number: 001-15138).
4.19.2**	Continuing Connected Transactions Third Supplemental Agreement between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 24, 2012 (English translation), incorporated by reference to Exhibit 4.19.2 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 11, 2013 (File Number: 001-15138).
4.20**	Memorandum on Adjustment of Rent of Land Use Rights between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 22, 2008 (English Translation), incorporated by reference to Exhibit 4.20 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on May 20, 2009 (File Number: 001-15138).
4.20.1**	Land Use Rights Leasing Agreement Third Amendment Memo between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 24, 2012 (English Translation), incorporated by reference to Exhibit 4.20.1 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 11, 2013 (File Number: 001-15138).
4.21**	Non-Compete Agreement Between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 and its related Undertakings (English translation), incorporated by reference to Exhibit 4.21 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on September 26, 2013 (File Number: 001-15138).
4.21.1**	Undertakings from China Petrochemical Corporation Regarding Further Avoiding Competition with China Petroleum & Chemical Corporation dated April 28, 2014 (English translation).
4.22*	A Supplementary Agreement to the existing Non-Compete Agreement Between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated June 3, 2000 and its related Undertakings (English translation), incorporated by reference to Exhibit 4.22 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 20, 2016 (File Number: 001-15138).
8.1**	A list of the Registrant’s subsidiaries.
12.1*	Certification of Chairman pursuant to Rule 13a-14(a).
12.2*	Certification of President pursuant to Rule 13a-14(a).
12.3*	Certification of CFO pursuant to Rule 13a-14(a).

13*	Certification of CEO and CFO pursuant to 18 U.S.C. §1350, and Rule 13a-14(b).
15.1**	Letter from KPMG regarding Item 16F of this annual report, incorporated by reference to Exhibit 15.1 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on September 26, 2013 (File Number: 001-15138).

* Filed herewith.
** Furnished with this annual report on Form 20-F.

SIGNATURE

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

China Petroleum & Chemical Corporation

By: /s/ Huang Wensheng
Name: Huang Wensheng
Title: Secretary to the Board of Directors

Date: April 24, 2017

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Shareholders of China Petroleum & Chemical Corporation,

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, comprehensive income, changes in equity and cash flows present fairly, in all material respects, the financial position of China Petroleum & Chemical Corporation (the “Company”) and its subsidiaries (collectively referred to as the “Group”) at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the Management’s Annual Report on Internal Control over Financial Reporting appearing under Item 15. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers Zhong Tian LLP

Shanghai, the People’s Republic of China
March 24, 2017

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF INCOME
FOR THE YEARS ENDED DECEMBER 31, 2014, 2015 AND 2016
(Amounts in millions, except per share data)

		Years ended December 31,		
	Note	2014	2015	2016
		RMB	RMB	RMB
Operating revenues				
Sales of goods		2,783,265	1,977,877	1,880,190
Other operating revenues	3	44,301	42,498	50,721
		2,827,566	2,020,375	1,930,911
Operating expenses				
Purchased crude oil, products and operating supplies and expenses		(2,335,530)	(1,494,046)	(1,379,691)
Selling, general and administrative expenses	4	(68,543)	(69,491)	(64,360)
Depreciation, depletion and amortization		(90,196)	(96,460)	(108,425)
Exploration expenses, including dry holes		(10,969)	(10,459)	(11,035)
Personnel expenses	5	(57,525)	(56,619)	(63,887)
Taxes other than income tax	6	(191,208)	(236,349)	(232,006)
Other operating expenses, net	7	(156)	(129)	5,686
Total operating expenses		(2,754,127)	(1,963,553)	(1,853,718)
Operating income		73,439	56,822	77,193
Finance costs				
Interest expense	8	(11,218)	(8,133)	(9,219)
Interest income		1,817	3,010	3,218
Loss on embedded derivative component of the convertible bonds	38(g)	(4,611)	(259)	
Net foreign currency exchange loss		(178)	(3,857)	(610)
Net finance costs		(14,190)	(9,239)	(6,611)
Investment income		2,704	466	263
Share of profits less losses from associates and joint ventures		3,865	8,362	9,306
Earnings before income tax		65,818	56,411	80,151
Tax expense	9	(17,571)	(12,613)	(20,707)
Net income		48,247	43,798	59,444
Attributable to:				
Owners of the Company		46,639	32,512	46,672
Non-controlling interests		1,608	11,286	12,772
Net income		48,247	43,798	59,444
Earnings per share:				
Basic	11	0.40	0.27	0.39
Diluted	11	0.40	0.27	0.39

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2014, 2015 AND 2016
(Amounts in millions)

	Note	Years ended December 31, 2014 RMB	2015 RMB	2016 RMB
Net income		48,247	43,798	59,444
Other comprehensive income:	10			
Items that may be reclassified subsequently to profit or loss (net of tax and after reclassification adjustments):				
Cash flow hedges		(4,485)	3,163	2,014
Available-for-sale securities		(1,225)	62	(24)
Share of other comprehensive (loss)/income of associates and joint ventures		(3,042)	(5,356)	45
Foreign currency translation differences		(514)	2,268	4,298
Total items that may be reclassified subsequently to profit or loss		(9,266)	137	6,333
Total other comprehensive income		(9,266)	137	6,333
Total comprehensive income for the year		38,981	43,935	65,777
Attributable to:				
Owners of the Company		38,971	31,789	53,724
Non-controlling interests		10	12,146	12,053
Total comprehensive income for the year		38,981	43,935	65,777

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEET
AS OF DECEMBER 31, 2015 AND 2016
(Amounts in millions)

		December 31,	
ASSETS	Note	2015	2016
Current assets			
Cash and cash equivalents		68,933	124,468
Time deposits with financial institutions		733	18,029
Trade accounts receivable, net	12	56,142	50,289
Bills receivable		10,964	13,197
Inventories	13	145,608	156,511
Prepaid expenses and other current assets	14	51,277	49,767
Total current assets		333,657	412,261
Non-current assets			
Property, plant and equipment, net	15	733,449	690,594
Construction in progress	16	152,325	129,581
Goodwill	17	6,271	6,353
Interest in associates	18	40,712	66,116
Interest in joint ventures	19	43,581	50,696
Available-for-sale financial assets	20	10,964	11,408
Deferred tax assets	21	7,469	7,214
Lease prepayments	22	51,049	54,241
Long-term prepayments and other assets	23	67,791	70,145
Total non-current assets		1,113,611	1,086,348
Total assets		1,447,268	1,498,609
LIABILITIES AND EQUITY			
Current liabilities			
Short-term debts	24	71,517	56,239
Loans from Sinopec Group Company and fellow subsidiaries	24	43,929	18,580
Trade accounts payable	25	130,558	174,301
Bills payable	25	3,566	5,828
Accrued expenses and other payables	26	212,214	224,544
Income tax payable		1,048	6,051
Total current liabilities		462,832	485,543
Non-current liabilities			
Long-term debts	24	95,446	72,674
Loans from Sinopec Group Company and fellow subsidiaries	24	44,300	44,772
Deferred tax liabilities	21	8,259	7,661
Provisions	27	33,186	39,298
Other long-term liabilities		15,084	17,426
Total non-current liabilities		196,275	181,831
Total liabilities		659,107	667,374
Equity			
Share capital	28	121,071	121,071
Reserves	38	555,126	589,923
Total equity attributable to owners of the Company		676,197	710,994
Non-controlling interests		111,964	120,241
Total equity		788,161	831,235

Total liabilities and equity	1,447,268	1,498,609

See accompanying notes to consolidated financial statements.

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CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2014, 2015 AND 2016
(Amounts in millions)

	Share capital RMB	Capital reserve RMB	Share premium RMB	Statutory surplus reserve RMB	Dis-cretionary surplus reserve RMB	Other reserves RMB	Retained earnings RMB	Total equity attributable to owners of the Company RMB	Non-controlling interests RMB	Total equity RMB
Balance as of December 31, 2013	116,565	(33,713)	33,347	73,337	117,000	2,491	259,776	568,803	52,823	621,626
Contribution from SAMC in the Acquisition of Gaoqiao Branch of SAMC (Note 1)		2,284						2,284	1,868	4,152
Balance as of January 1, 2014	116,565	(31,429)	33,347	73,337	117,000	2,491	259,776	571,087	54,691	625,778
Net income							46,639	46,639	1,608	48,247
Other comprehensive income (Note 10)						(7,668)		(7,668)	(1,598)	(9,266)
Total comprehensive income for the year						(7,668)	46,639	38,971	10	38,981
Transactions with owners, recorded directly in equity:										
Contributions by and distributions to owners:										
Conversion of the 2011 Convertible Bonds (Note 38(g))	1,715		8,477					10,192		10,192
							(17,519)	(17,519)		(17,519)

Final dividend for 2013										
Interim dividend for 2014							(10,512)	(10,512)		(10,512)
Appropriation (Note 38(c))				3,215			(3,215)			
Contributions to subsidiaries from non-controlling interests									4,155	4,155
Distributions to non-controlling interests									(1,545)	(1,545)
Profit distribution to SAMC (Note 1)							(173)	(173)	(141)	(314)
Total contributions by and distributions to owners	1,715		8,477	3,215			(31,419)	(18,012)	2,469	(15,543)
Changes in ownership interests in subsidiaries that do not result in a loss of control:										
Transaction with non-controlling interests		3,216						3,216	(2,877)	339
Total changes in ownership interests in subsidiaries that do not result in a loss of control		3,216						3,216	(2,877)	339
Total transactions with owners	1,715	3,216	8,477	3,215			(31,419)	(14,796)	(408)	(15,204)
Others		(70)				(1,002)	1,065	(7)	54	47
Balance as of December 31, 2014	118,280	(28,283)	41,824	76,552	117,000	(6,179)	276,061	595,255	54,347	649,602

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)
FOR THE YEARS ENDED DECEMBER 31, 2014, 2015 AND 2016
(Amounts in millions)

	Share capital RMB	Capital reserve RMB	Share premium RMB	Statutory surplus reserve RMB	Dis-cretionary surplus reserve RMB	Other reserves RMB	Retained earnings RMB	Total equity attributable to owners of the Company RMB	Non-controlling interests RMB	Total equity RMB
Balance as of December 31, 2014	118,280	(30,497)	41,824	76,552	117,000	(6,179)	276,061	593,041	52,536	645,577
Contribution from SAMC in the Acquisition of Gaoqiao Branch of SAMC (Note 1)		2,214						2,214	1,811	4,025
Balance as of January 1, 2015	118,280	(28,283)	41,824	76,552	117,000	(6,179)	276,061	595,255	54,347	649,602
Net income							32,512	32,512	11,286	43,798
Other comprehensive income (Note 10)						(1,169)		(1,169)	1,306	137
Total comprehensive income for the year						(1,169)	32,512	31,343	12,592	43,935
Transactions with owners, recorded directly in equity:										
Contributions by and distributions to owners:										
Conversion of the 2011 Convertible Bonds (Note 38(g))	2,791		14,026					16,817		16,817
							(13,318)	(13,318)		(13,318)

Final dividend for 2014										
Interim dividend for 2015							(10,896)	(10,896)		(10,896)
Appropriation (Note 38 (c))				3,088			(3,088)			
Contributions to subsidiaries from non-controlling interests		56,224				446		56,670	48,807	105,477
Distributions to non-controlling interests									(3,389)	(3,389)
Profit distribution to SAMC (Note 1)							(74)	(74)	(60)	(134)
Total contributions by and distributions to owners	2,791	56,224	14,026	3,088		446	(27,376)	49,199	45,358	94,557
Changes in ownership interests in subsidiaries that do not result in a loss of control:										
Transaction with non-controlling interests		326						326	(326)	
Total changes in ownership interests in subsidiaries that do not result in a loss of control		326						326	(326)	
Total transactions with owners	2,791	56,550	14,026	3,088		446	(27,376)	49,525	45,032	94,557
Others		74				121	(121)	74	(7)	67
Balance as of December 31, 2015	121,071	28,341	55,850	79,640	117,000	(6,781)	281,076	676,197	111,964	788,161

See accompanying notes to consolidated financial statements.

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CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)
FOR THE YEARS ENDED DECEMBER 31, 2014, 2015 AND 2016
(Amounts in millions)

	Share capital RMB	Capital reserve RMB	Share premium RMB	Statutory surplus reserve RMB	Dis-cretionary surplus reserve RMB	Other reserves RMB	Retained earnings RMB	Total equity attributable to owners of the Company RMB	Non-controlling interests RMB	Total equity RMB
Balance as of January 1, 2016	121,071	28,341	55,850	79,640	117,000	(6,781)	281,076	676,197	111,964	788,161
Net income							46,672	46,672	12,772	59,444
Other comprehensive income (Note 10)						7,052		7,052	(719)	6,333
Total comprehensive income for the year						7,052	46,672	53,724	12,053	65,777
Transactions with owners, recorded directly in equity:										
Contributions by and distributions to owners:										
Final dividend for 2015							(7,264)	(7,264)		(7,264)
Interim dividend for 2016							(9,565)	(9,565)		(9,565)
Appropriation (Note 38 (c))										
Distributions to non-controlling interests									(6,146)	(6,146)
Profit distribution to SAMC (Note 1)							(47)	(47)	(39)	(86)
		(2,137)						(2,137)	2,137	

Distribution to SAMC in the Acquisition of Gaoqiao Branch of SAMC (Note 1)										
Total contributions by and distributions to owners		(2,137)					(16,876)	(19,013)	(4,048)	(23,061)
Changes in ownership interests in subsidiaries that do not result in a loss of control:										
Transaction with non-controlling interests		(30)						(30)	263	233
Total changes in ownership interests in subsidiaries that do not result in a loss of control		(30)						(30)	263	233
Total transactions with owners		(2,167)					(16,876)	(19,043)	(3,785)	(22,828)
Others		116				153	(153)	116	9	125
Balance as of December 31, 2016	121,071	26,290	55,850	79,640	117,000	424	310,719	710,994	120,241	831,235

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2014, 2015 AND 2016
(Amounts in millions)

	Note	Years ended December 31, 2014 RMB	2015 RMB	2016 RMB
Net cash generated from operating activities	(a)	148,019	165,740	214,543
Investing activities				
Capital expenditure		(113,069)	(95,495)	(65,467)
Exploratory wells expenditure		(11,334)	(7,203)	(7,380)
Purchase of investments, investments in associates and investments in joint ventures	18 and 19 20	(16,409)	(23,440)	(16,389)
Proceeds from disposal of investments and investments in associates		3,874	3,353	33,516
Proceeds from disposal of property, plant, equipment and other non-current assets		1,020	427	440
(Increase) /decrease in time deposits with maturities over three months		(690)	12	(17,296)
Interest received		1,658	2,228	2,331
Investment and dividend income received		2,629	3,399	4,028
Net cash used in investing activities		(132,321)	(116,719)	(66,217)
Financing activities				
Proceeds from bank and other loans		1,128,447	1,090,241	506,097
Repayments of bank and other loans		(1,114,481)	(1,152,837)	(569,091)
Contributions to subsidiaries from non-controlling interests		4,157	105,529	343
Dividends paid by the Company		(28,031)	(24,214)	(16,876)
Distributions by subsidiaries to non-controlling interests		(1,806)	(1,481)	(6,553)
Interest paid		(9,789)	(8,145)	(6,967)
Transaction with non-controlling interests		(21)		
Net cash (used in)/generated from financing activities		(21,524)	9,093	(93,047)
Net (decrease)/increase in cash and cash equivalents		(5,826)	58,114	55,279
Cash and cash equivalents as of January 1		16,336	10,526	68,933
Effect of foreign currency exchange rate changes		16	293	256
Cash and cash equivalents as of December 31		10,526	68,933	124,468

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED STATEMENT OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2014, 2015 AND 2016
(Amounts in millions)

(a) Reconciliation of earnings before income tax to net cash generated from operating activities

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Operating activities			
Earnings before income tax	65,818	56,411	80,151
Adjustment for:			
Depreciation, depletion and amortization	90,196	96,460	108,425
Dry hole costs written off	5,587	6,099	7,467
Income from associates and joint ventures	(3,865)	(8,362)	(9,306)
Investment income	(2,704)	(466)	(263)
Gain on dilution and remeasurement of interests in the Pipeline Ltd (Note 7 (iii))			(20,562)
Interest income	(1,817)	(3,010)	(3,218)
Interest expense	11,218	8,133	9,219
(Gain)/loss on foreign currency exchange rate changes and derivative financial instruments	(662)	3,085	86
Loss on disposal of property, plant, equipment and other non- currents assets, net	1,622	748	1,528
Impairment losses on assets	6,839	8,767	17,076
Loss on embedded derivative component of the convertible bonds	4,611	259	
	176,843	168,124	190,603
Net charges from:			
Accounts receivable and other current assets	(28,654)	40,910	(22,549)
Inventories	28,714	39,136	(11,364)
Accounts payable and other current liabilities	(7,331)	(68,431)	81,089
	169,572	179,739	237,779
Income tax paid	(21,553)	(13,999)	(23,236)
Net cash generated from operating activities	148,019	165,740	214,543

See accompanying notes to consolidated financial statements.

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1 PRINCIPAL ACTIVITIES, ORGANIZATION AND BASIS OF PRESENTATION

Principal activities

China Petroleum & Chemical Corporation (the "Company") is an energy and chemical company that, through its subsidiaries (hereinafter collectively referred to as the "Group"), engages in oil and gas and chemical operations in the People's Republic of China (the "PRC"). Oil and gas operations consist of exploring for, developing and producing crude oil and natural gas; transporting crude oil and natural gas by pipelines; refining crude oil into finished petroleum products; and marketing crude oil, natural gas and refined petroleum products. Chemical operations include the manufacture and marketing of a wide range of chemicals for industrial uses.

Organization

The Company was established in the PRC on February 25, 2000 as a joint stock limited company as part of the reorganization (the "Reorganization") of China Petrochemical Corporation ("Sinopec Group Company"), the ultimate holding company of the Group and a ministry-level enterprise under the direct supervision of the State Council of the PRC. Prior to the incorporation of the Company, the oil and gas and chemical operations of the Group were carried on by oil administration bureaux, petrochemical and refining production enterprises and sales and marketing companies of Sinopec Group Company.

As part of the Reorganization, certain of Sinopec Group Company's core oil and gas and chemical operations and businesses together with the related assets and liabilities were transferred to the Company. On February 25, 2000, in consideration for Sinopec Group Company transferring such oil and gas and chemical operations and businesses and the related assets and liabilities to the Company, the Company issued 68.8 billion domestic state-owned ordinary shares with a par value of RMB 1.00 each to Sinopec Group Company. The shares issued to Sinopec Group Company on February 25, 2000 represented the entire registered and issued share capital of the Company as of that date. The oil and gas and chemical operations and businesses transferred to the Company were related to (i) the exploration, development and production of crude oil and natural gas, (ii) the refining, transportation, storage and marketing of crude oil and petroleum products, and (iii) the production and sales of chemicals.

Basis of preparation

Pursuant to the resolution passed at the Directors' meeting on October 29, 2015, the Company entered into the JV Agreement with Sinopec Assets Management Corporation ("SAMC") in relation to the formation of the Gaoqiao Petrochemical Co., Ltd. According to the JV Agreement, the Company and SAMC jointly set up Gaoqiao Petrochemical Co., Ltd. for RMB 100 million in cash in 2016. Subsequently, the Company subscribed capital contribution with the net assets of Gaoqiao Branch of the Company and SAMC subscribed capital contribution with the net assets of Gaoqiao Branch of SAMC. The capital contribution was completed on June 1, 2016, after which the Company held 55% of Gaoqiao Petrochemical Co., Ltd.'s voting rights and became the parent company of Gaoqiao Petrochemical Co., Ltd.

As Sinopec Group Company controls both the Group and SAMC, the non–cash transaction described above between Sinopec and SAMC has been accounted as business combination under the common control and it has been reflected in the accompanying consolidated financial statements as combination of entities under common control in a manner of predecessor value accounting. Accordingly, the assets and liabilities of Gaoqiao Branch of SAMC have been accounted for at historical cost, and the consolidated financial statements of the Group prior to these acquisitions have been restated to include the results of operation and the assets and liabilities of Gaoqiao Branch of SAMC on a combined basis.

The financial condition as of December 31, 2014 and 2015 and the results of operation for the years ended December 31, 2014 and 2015 previously reported by the Group have been restated to include the results of operations and the assets and liabilities of Gaoqiao Branch of SAMC on a combined basis as set out below:

	The Group, as previously reported RMB million	Gaoqiao Branch of SAMC RMB million	Elimination and Adjustment* RMB million	The Group, as restated RMB million
Summarized consolidated statement of income				
for the year ended December 31, 2014				
Operating revenues	2,825,914	3,189	(1,537)	2,827,566
Net income attributable to owners of the Company	46,466	314	(141)	46,639
Net income attributable to non-controlling interests	1,467		141	1,608
Basic earnings per share (RMB)	0.398	0.001		0.399
Diluted earnings per share (RMB)	0.397	0.002		0.399
for the year ended December 31, 2015				
Operating revenues	2,018,883	2,563	(1,071)	2,020,375
Net income attributable to owners of the Company	32,438	134	(60)	32,512
Net income attributable to non-controlling interests	11,226		60	11,286
Basic earnings per share (RMB)	0.268	0.001		0.269
Diluted earnings per share (RMB)	0.268	0.001		0.269
Summarized consolidated balance sheet				
as of December 31, 2015				
Current assets	332,405	1,287	(35)	333,657
Total assets	1,443,129	4,174	(35)	1,447,268
Current liabilities	462,642	225	(35)	462,832
Total liabilities	658,910	232	(35)	659,107
Total equity attributable to owners of the Company	674,029	3,942	(1,774)	676,197
Non-controlling interests	110,190		1,774	111,964

	The Group, as previously reported RMB million	Gaoqiao Branch of SAMC RMB million	Elimination and Adjustment* RMB million	The Group, as restated RMB million
Summarized consolidated statement of cash flows				
for the year ended December 31, 2014				
Net cash generated from/(used in) operating activities	148,347	(328)		148,019
Net cash (used in)/generated from investing activities	(132,633)	273	39	(132,321)
Net cash (used in)/generated from financing activities	(21,421)	(64)	(39)	(21,524)
Net (decrease)/increase in cash and cash equivalents	(5,707)	(119)		(5,826)
for the year ended December 31, 2015				
Net cash generated from/(used in) operating activities	165,818	(79)	1	165,740
Net cash (used in)/generated from investing activities	(116,952)	201	32	(116,719)
Net cash generated from/(used in) financing activities	9,310	(185)	(32)	9,093
Net increase/(decrease) in cash and cash equivalents	58,176	(63)	1	58,114

* Gaoqiao Branch of SAMC sold its chemical products and steam to the Group. The transactions between the Group and the Gaoqiao Branch of SAMC have been eliminated on combination. All other significant balances and transactions between the Group and Gaoqiao Branch of SAMC have been eliminated on combination.

At the completion date, the non–controlling interests amount to RMB 2,137 was recognized in relation to SAMC's 45% interest in Gaoqiao Branch of the Company.

The accompanying consolidated financial statements have been prepared in accordance with applicable International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). IFRS includes International Accounting Standards ("IAS") and related interpretations ("IFRIC"). A summary of the significant accounting policies adopted by the Group are set out in Note 2. The accompanying financial statements were authorized for issue by the Board of Directors on March 24, 2017.

(a) New and amended standards and interpretations adopted by the Group

The IASB has not issued any new and amended standards and interpretations that are first effective for the current accounting period that would impact the consolidated financial statements of the Group. The Group has not adopted any new standard or interpretation that is not yet effective for the current accounting period.

(b) New and amended standards and interpretations not yet adopted by the Group

The following relevant IFRSs, amendments to existing IFRSs and interpretation of IFRS have been published and are mandatory for accounting periods beginning on or after January 1, 2017 or later periods and have not been early adopted by the Group. Management is in the process of making an assessment of what the impact of these amendments, new standards and new interpretations is expected to be in the period of initial application and has so far concluded that, except for IFRS 16, the adoption of these amendments, new standards and new interpretations is unlikely to have a significant impact on the Group's results of operations and financial position.

IFRS 9, 'Financial instruments', addresses the classification, measurement and recognition of financial assets and financial liabilities. The complete version of IFRS 9 was issued in July 2014. It replaces the whole of IAS 39. IFRS 9 introduces a new model for the recognition of impairment losses – the expected credit losses (ECL) model, which constitutes a change from the incurred loss model in IAS 39. IFRS 9 applies to all hedging relationships, with the exception of portfolio fair value hedges of interest rate risk. The new guidance better aligns hedge accounting with the risk management activities of an entity and provides relief from the more "rule-based" approach of IAS 39. IFRS 9 is effective for annual periods beginning on or after January 1, 2018. Earlier application is permitted.

Amendments to IFRS 10 and IAS 28 on sale or contribution of assets between an investor and its associate or joint venture. The amendments address an inconsistency between IFRS 10 and IAS 28 in the sale and contribution of assets between an investor and its associate or joint venture. A full gain or loss is recognized when a transaction involves a business. A partial gain or loss is recognized when a transaction involves assets that do not constitute a business, even if those assets are in a subsidiary. The amendments were originally intended to be effective for annual periods beginning on or after January 1, 2016. The effective date has now been deferred/removed. Early application of the amendments continues to be permitted.

IFRS 15, 'Revenue from contracts with customers', establishes a comprehensive framework for determining when to recognize revenue and how much revenue to recognize through a 5-step approach. IFRS 15 provides specific guidance on capitalization of contract cost and licence arrangements. It also includes a cohesive set of disclosure requirements about the nature, amount, timing and uncertainty of revenue and cash flows arising from the entity's contracts with customers. The core principle is that a company should recognize revenue to depict the transfer of promised goods or services to the customer in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. IFRS 15 replaces the previous revenue standards: IAS 18 'Revenue' and IAS 11 'Construction Contracts' and the related Interpretations on revenue recognition: IFRIC 13 'Customer Loyalty Programmes', IFRIC 15 'Agreements for the Construction of Real Estate', IFRIC 18 'Transfers of Assets from Customers' and SIC-31 'Revenue-Barter Transactions Involving Advertising Services'. IFRS 15 is effective for annual reporting periods beginning on or after January 1, 2018, with earlier application permitted.

IFRS 16, 'Leases', provides updated guidance on the definition of leases, and the guidance on the combination and separation of contracts. Under IFRS 16, a contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

IFRS 16 requires lessees to recognize lease liability reflecting future lease payments and a ‘right-of-use-asset’ for almost all lease contracts, with an exemption for certain short-term leases and leases of low-value assets. The lessors accounting stays almost the same as under IAS 17 'Leases'. An entity shall apply IFRS 16 for annual reporting periods beginning on or after January 1, 2019. Earlier application is permitted if IFRS 15 is also applied.

Amendments to IAS 7, 'Statement of cash flows', the IASB has issued an amendment to IAS 7 introducing an additional disclosure that will enable users of financial statements to evaluate changes in liabilities arising from financing activities. The amendment is part of the IASB’s Disclosure Initiative, which continues to explore how financial statement disclosure can be improved. Amendments to IAS 7 are effective for annual periods beginning on or after January 1, 2017.

Amendments to IAS 12, 'Income taxes', the IASB has issued amendments to IAS 12,'Income taxes'. These amendments on the recognition of deferred tax assets for unrealized losses clarify how to account for deferred tax assets related to debt instruments measured at fair value. Amendments to IAS 12 are effective for annual periods beginning on or after January 1, 2017.

The accompanying consolidated financial statements are prepared on the historical cost basis except for the remeasurement of available-for-sale securities (Note 2(k)), securities held for trading (Note 2(k)), derivative financial instruments (Note 2(l) and (n)) and derivative component of the convertible bonds (Note 2(r)) to their fair values.

The preparation of the consolidated financial statements in accordance with IFRSs requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the year. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis of making the judgements about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Key assumptions and estimation made by management in the application of IFRSs that have significant effect on the consolidated financial statements and the major sources of estimation uncertainty are disclosed in Note 35.

2 SIGNIFICANT ACCOUNTING POLICIES

(a) Basis of consolidation

The consolidated financial statements comprise the Company and its subsidiaries, and the Group’s interest in associates and joint ventures.

(i) Subsidiaries and non-controlling interests

Subsidiaries are those entities controlled by the Group. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

The financial statements of subsidiaries are included in the consolidated financial statements from the date that control effectively commences until the date that control effectively ceases.

Non-controlling interests at the balance sheet date, being the portion of the net assets of subsidiaries attributable to equity interests that are not owned by the Company, whether directly or indirectly through subsidiaries, are presented in the consolidated balance sheet and consolidated statement of changes in equity within equity, separately from equity attributable to the owners of the Company. Non-controlling interests in the results of the Group are presented on the face of the consolidated statement of income and the consolidated statement of comprehensive income as an allocation of the total profit or loss and total comprehensive income for the year between non-controlling interests and the owners of the Company.

Changes in the Group's interests in a subsidiary that do not result in a loss of control are accounted for as equity transactions, whereby adjustments are made to the amounts of controlling and non-controlling interests within consolidated equity to reflect the change in relative interests, but no adjustments are made to goodwill and no gain or loss is recognized.

When the Group loses control of a subsidiary, it is accounted for as a disposal of the entire interest in that subsidiary, with a resulting gain or loss being recognized in profit or loss. Any interest retained in that former subsidiary at the date when control is lost is recognized at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (Note 2(k)) or, when appropriate, the cost on initial recognition of an investment in an associate or joint venture (Note 2(a)(ii)).

The particulars of the Group's principal subsidiaries are set out in Note 33.

(ii) Associates and joint ventures

An associate is an entity, not being a subsidiary, in which the Group exercises significant influence over its management. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

The investments in joint arrangements are classified as either joint operations or joint ventures depending on the contractual rights and obligations each investor has rather than the legal structure of the joint arrangement. A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

Investments in associates and joint ventures are accounted for in the consolidated financial statements using the equity method from the date that significant influence or joint control commences until the date that significant influence or joint control ceases. Under the equity method, the investment is initially recorded at cost and adjusted thereafter for the post acquisition change in the Group's share of the investee's net assets and any impairment loss relating to the investment (Note 2(j) and (o)).

The Group's share of the post-acquisition, post-tax results of the investees and any impairment losses for the year are recognized in the consolidated statement of income, whereas the Group's share of the post-acquisition post-tax items of the investees' other comprehensive income is recognized in the consolidated statement of comprehensive income.

When the Group ceases to have significant influence over an associate or joint control over a joint venture, it is accounted for as a disposal of the entire interest in that investee, with a resulting gain or loss being recognized in profit or loss. Any interest retained in that former investee at the date when significant influence or joint control is lost is recognized at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (see Note 2(k)) or, when appropriate, the cost on initial recognition of an investment in an associate (see Note 2(a) (ii)).

(iii) Transactions eliminated on consolidation

Inter-company balances and transactions and any unrealized gains arising from inter-company transactions are eliminated on consolidation. Unrealized gains arising from transactions with associates and joint ventures are eliminated to the extent of the Group's interest in the entity. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

(iv) Merger accounting for common control combination

The consolidated financial statements incorporate the financial statements of the combining entities or businesses in which the common control combination occurs as if they had been combined from the date when the combining entities or businesses first came under the control of the controlling party. The net assets of the combining entities or businesses are combined using the existing book values from the controlling parties' perspective. No amount is recognized as consideration for goodwill or excess of acquirers' interest in the net fair value of acquiree's identifiable assets, liabilities and contingent liabilities over cost at the time of common control combination, to the extent of the continuation of the controlling party's interest.

The consolidated statement of income includes the results of each of the combining entities or businesses from the earliest date presented or since the date when the combining entities or businesses first came under the common control, where there is a shorter period, regardless of the date of the common control combination. The comparative amounts in the consolidated financial statements are presented as if the entities or businesses had been combined at the previous balance sheet date or when they first came under common control, whichever is shorter.

A uniform set of accounting policies is adopted by those entities. All intra–group transactions, balances and unrealized gains on transactions between combining entities or businesses are eliminated on consolidation. Transaction costs, including professional fees, registration fees, costs of furnishing information to shareholders, costs or losses incurred in combining operations of the previously separate businesses, etc., incurred in relation to the common control combination that is to be accounted for by using merger accounting is recognized as an expense in the period in which it is incurred.

(b) Translation of foreign currencies

The presentation currency of the Group is Renminbi. Foreign currency transactions during the year are translated into Renminbi at the applicable rates of exchange quoted by the People's Bank of China ("PBOC") prevailing on the transaction dates. Foreign currency monetary assets and liabilities are translated into Renminbi at the PBOC's rates at the balance sheet date.

Exchange differences, other than those capitalized as construction in progress, are recognized as income or expenses in the "finance costs" section of the consolidated statement of income.

The results of foreign operations are translated into Renminbi at the applicable rates quoted by the PBOC prevailing on the transaction dates. Balance sheet items, including goodwill arising on consolidation of foreign operations are translated into Renminbi at the closing foreign exchange rates at the balance sheet date. The income and expenses of foreign operations are translated into Renminbi at the spot exchange rates or an exchange rate that approximents the spot exchange rates on the transaction dates. The resulting exchange differences are recognized in other comprehensive income and accumulated in equity in the other reserves.

On disposal of a foreign operation, the cumulative amount of the exchange differences relating to that foreign operation is reclassified from equity to the consolidated statement of income when the profit or loss on disposal is recognized.

(c) Cash and cash equivalents

Cash equivalents consist of time deposits with financial institutions with an initial term of less than three months when purchased. Cash equivalents are stated at cost, which approximates fair value.

(d) Trade, bills and other receivables

Trade, bills and other receivables are initially recognized at fair value and thereafter stated at amortized cost using the effective interest method, less impairment losses for bad and doubtful debts (Note 2(o)). Trade, bills and other receivables are derecognized if the Group's contractual rights to the cash flows from these financial assets expire or if the Group transfers these financial assets to another party without retaining control or substantially all risks and rewards of the assets.

(e) Inventories

Inventories are stated at the lower of cost and net realizable value. Cost includes the cost of purchase computed using the weighted average method and, in the case of work in progress and finished goods, direct labor and an appropriate proportion of production overheads. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale.

(f) Property, plant and equipment

An item of property, plant and equipment is initially recorded at cost, less accumulated depreciation and impairment losses (Note 2(o)). The cost of an asset comprises its purchase price, any directly attributable costs of bringing the asset to working condition and location for its intended use. The Group recognizes in the carrying amount of an item of property, plant and equipment the cost of replacing part of such an item when that cost is incurred when it is probable that the future economic benefits embodied with the item will flow to the Group and the cost of the item can be measured reliably. All other expenditure is recognized as an expense in the consolidated statement of income in the year in which it is incurred.

Gains or losses arising from the retirement or disposal of an item of property, plant and equipment, other than oil and gas properties, are determined as the difference between the net disposal proceeds and the carrying amount of the item and are recognized as income or expense in the consolidated statement of income on the date of retirement or disposal.

Depreciation is provided to write off the cost amount of items of property, plant and equipment, other than oil and gas properties, over its estimated useful life on a straight-line basis, after taking into account its estimated residual value, as follows:

	Estimated usage period	Estimated residuals rate
Buildings	12 to 50 years	3%
Equipment, machinery and others	4 to 30 years	3%

Where parts of an item of property, plant and equipment have different useful lives, the cost of the item is allocated on a reasonable basis between the parts and each part is depreciated separately. Both the useful life of an asset and its residual value, if any, are reassessed annually.

(g) Oil and gas properties

The Group uses the successful efforts method of accounting for its oil and gas producing activities. Under this method, costs of development wells, the related supporting equipment and proved mineral interests in properties are capitalized. The cost of exploratory wells is initially capitalized as construction in progress pending determination of whether the well has found proved reserves. The impairment of exploratory well costs occurs upon the determination that the well has not found proved reserves. The exploratory well costs are usually not carried as an asset for more than one year following completion of drilling, unless (i) the well has found a sufficient quantity of reserves to justify its completion as a producing well if the required capital expenditure is made; (ii) drilling of the additional exploratory wells is under way or firmly planned for the near future; or (iii) other activities are being undertaken to sufficiently progress the assessing of the reserves and the economic and operating viability of the project. All other exploration costs, including geological and geophysical costs, other dry hole costs and annual lease rentals, are expensed as incurred. Capitalized costs of proved oil and gas properties are amortized on a unit-of-production method based on volumes produced and reserves.

Management estimates future dismantlement costs for oil and gas properties with reference to engineering estimates after taking into consideration the anticipated method of dismantlement required in accordance with the industry practices and the future cash flows are adjusted to reflect such risks specific to the liability, as appropriate. These estimated future dismantlement costs are discounted at a pre-tax risk-free rate and are capitalized as oil and gas properties, which are subsequently amortized as part of the costs of the oil and gas properties.

(h) Lease prepayments

Lease prepayments represent land use rights paid to the relevant government authorities. Land use rights are carried at cost less the accumulated amount charged to expense and impairment losses (Note 2(o)). The cost of lease prepayments is charged to expense on a straight-line basis over the respective periods of the rights.

(i) Construction in progress

Construction in progress represents buildings, oil and gas properties, various plant and equipment under construction and pending installation, and is stated at cost less impairment losses (Note 2(o)). Cost comprises direct costs of construction as well as interest charges, and foreign exchange differences on related borrowed funds to the extent that they are regarded as an adjustment to interest charges, during the periods of construction.

Construction in progress is transferred to property, plant and equipment when the asset is substantially ready for its intended use.

No depreciation is provided in respect of construction in progress.

(j) Goodwill

Goodwill represents amounts arising on acquisition of subsidiaries, associates or joint ventures. Goodwill represents the difference between the cost of acquisition and the fair value of the net identifiable assets acquired.

Prior to January 1, 2008, the acquisition of the non-controlling interests of a consolidated subsidiary was accounted for using the acquisition method whereby the difference between the cost of acquisition and the fair value of the net identifiable assets acquired (on a proportionate share) was recognized as goodwill. From January 1, 2008, any difference between the amount by which the non-controlling interest is adjusted (such as through an acquisition of the non-controlling interests) and the cash or other considerations paid is recognized in equity.

Goodwill is stated at cost less accumulated impairment losses. Goodwill arising on a business combination is allocated to each cash-generating unit, or groups of cash generating units, that is expected to benefit the synergies of the combination and is tested annually for impairment (Note 2(o)). In respect of associates and joint ventures, the carrying amount of goodwill is included in the carrying amount of the interest in the associates or joint ventures and the investment as a whole is tested for impairment whenever there is objective evidence of impairment (Note 2(o)).

(k) Available-for-sale financial assets

Investments in available-for-sale securities are carried at fair value with any change in fair value recognized in other comprehensive income and accumulated separately in equity in other reserves. When these investments are derecognized or impaired, the cumulative gain or loss is reclassified from equity to the consolidated statement of income. Investments in equity securities, other than investments in associates and joint ventures, that do not have a quoted market price in an active market and whose fair value cannot be reliably measured are recognized in the balance sheet at cost less impairment losses (Note 2(o)).

Investments in securities held for trading are classified as current assets. Any attributable transaction costs are recognized in the consolidated statement of income as incurred. At each balance sheet date, the fair value is remeasured, with any resultant gain or loss being recognized in the consolidated statement of income.

(l) Derivative financial instruments

Derivative financial instruments are recognized initially at fair value. At each balance sheet date, the fair value is remeasured. The gain or loss on remeasurement to fair value is recognized immediately in the consolidated statement of income, except where the derivatives qualify for cash flow hedge accounting or the hedge of net investment in a foreign operation, in which case recognition of any resulting gain or loss depends on the nature of the item being hedged (Note 2(n)).

(m) Offsetting financial instruments

Financial assets and liabilities are presented respectively in the consolidated balance sheet, without any offset. However, they are offset and reported in the balance sheet when satisfied the following: (i) There is a legally enforceable right to offset the recognized amounts. (ii) There is an intention to settle on a net basis or realize the asset and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Company or the counterparty.

(n) Hedging

(i) Cash flow hedges

Where a derivative financial instrument is designated as a hedge of the variability in cash flows of a recognized asset or liability or a highly probable forecast transaction or the foreign currency risk of a committed future transaction, the effective portion of any gains or losses on remeasurement of the derivative financial instrument to fair value are recognized in other comprehensive income and accumulated separately in equity in other reserves. The ineffective portion of any gain or loss is recognized immediately in the consolidated statement of income.

If a hedge of a forecast transaction subsequently results in the recognition of a non-financial asset, the associated gain or loss is reclassified from equity to be included in the initial cost or other carrying amount of the non-financial asset.

If a hedge of a forecast transaction subsequently results in the recognition of a financial asset or a financial liability, the associated gain or loss is reclassified from equity to the consolidated statement of income in the same period or periods during which the asset acquired or liability assumed affects the consolidated statement of income (such as when interest income or expense is recognized).

For cash flow hedges, other than those covered by the preceding two policy statements, the associated gain or loss is reclassified from equity to the consolidated statement of income in the same period or periods during which the hedged forecast transaction affects the consolidated statement of income.

When a hedging instrument expires or is sold, terminated, exercised, or the entity revokes designation of the hedge relationship but the hedged forecast transaction is still expected to occur, the cumulative gain or loss at that point remains in equity until the transaction occurs and it is recognized in accordance with the above policy. If the hedged transaction is no longer expected to take place, the cumulative unrealized gain or loss is reclassified from equity to the consolidated statement of income immediately.

(ii) Fair value hedges

A fair value hedge is a hedge of the exposure to changes in fair value of a recognized asset or liability or an unrecognized firm commitment, or an identified portion of such an asset, liability or unrecognized firm commitment.

The gain or loss from remeasuring the hedging instrument at fair value is recognized in profit or loss. The gain or loss on the hedged item attributable to the hedged risk adjusts the carrying amount of the hedged item and is recognized in profit or loss.

When a hedging instrument expires or is sold, terminated or exercised, or no longer meets the criteria for hedge accounting, the Group discontinues prospectively the hedge accounting treatments. If the hedged item is a financial instrument measured at amortized cost, any adjustment to the carrying amount of the hedged item is amortized to profit or loss from the adjustment date to the maturity date using the recalculated effective interest rate at the adjustment date.

(iii) Hedge of net investments in foreign operations

The portion of the gain or loss on remeasurement to fair value of an instrument used to hedge a net investment in a foreign operation that is determined to be an effective hedge is recognized in other comprehensive income and accumulated separately in equity in other reserve until the disposal of the foreign operation, at which time the cumulative gain or loss is reclassified from equity to the consolidated statement of income. The ineffective portion is recognized immediately in the consolidated statement of income. No hedge of net investment in foreign operations was hold by the Group for the year ended December 31, 2016.

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(o) Impairment of assets

(i) Trade accounts receivable, other receivables and investment in equity securities that do not have a quoted market price in an active market are reviewed at each balance sheet date to determine whether there is objective evidence of impairment. If any such evidence exists, an impairment loss is determined and recognized.

The impairment loss is measured as the difference between the asset's carrying amount and the estimated future cash flows, discounted at the current market rate of return for a similar financial asset where the effect of discounting is material, and is recognized as an expense in the consolidated statement of income. Impairment losses for trade and other receivables are reversed through the consolidated statement of income if in a subsequent period the amount of the impairment losses decreases. Impairment losses for equity securities carried at cost are not reversed.

For investments in associates and joint ventures accounted under the equity method (Note 2(a)(ii)), the impairment loss is measured by comparing the recoverable amount of the investment as a whole with its carrying amount in accordance with the accounting policy set out in Note 2(o)(ii). The impairment loss is reversed if there has been a favorable change in the estimates used to determine the recoverable amount in accordance with the accounting policy set out in Note 2(o)(ii).

(ii) Impairment of other long-lived assets is accounted as follows:

The carrying amounts of other long-lived assets, including property, plant and equipment, construction in progress, lease prepayments and other assets, are reviewed at each balance sheet date to identify indicators that the assets may be impaired. These assets are tested for impairment whenever events or changes in circumstances indicate that their recorded carrying amounts may not be recoverable. When such a decline has occurred, the carrying amount is reduced to the recoverable amount. For goodwill, the recoverable amount is estimated at each balance sheet date.

The recoverable amount is the greater of the fair value less costs to disposal and the value in use. In determining the value in use, expected future cash flows generated by the asset are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Where an asset does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the smallest group of assets that generates cash inflows independently (i.e. a cash-generating unit).

The amount of the reduction is recognized as an expense in the consolidated statement of income. Impairment losses recognized in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to the cash-generating unit and then, to reduce the carrying amount of the other assets in the unit on a pro rata basis, except that the carrying value of an asset will not be reduced below its individual fair value less costs to disposal, or value in use, if determinable.

Management assesses at each balance sheet date whether there is any indication that an impairment loss recognized for a long-lived asset, except in the case of goodwill, in prior years may no longer exist. An impairment loss is reversed if there has been a favorable change in the estimates used to determine the recoverable amount. A subsequent increase in the recoverable amount of an asset, when the circumstances and events that led to the write-down or write-off cease to exist, is recognized as an income. The reversal is reduced by the amount that would have been recognized as depreciation had the write-down or write-off not occurred. An impairment loss in respect of goodwill is not reversed.

(p) Trade, bills and other payables

Trade, bills and other payables are initially recognized at fair value and thereafter stated at amortized cost unless the effect of discounting would be immaterial, in which case they are stated at cost.

(q) Interest-bearing borrowings

Interest-bearing borrowings are recognized initially at fair value less attributable transaction costs. Subsequent to initial recognition, interest-bearing borrowings are stated at amortized cost with any difference between cost and redemption value being recognized in the consolidated statement of income over the period of borrowings using the effective interest method.

(r) Convertible bonds

(i) Convertible bonds that contain an equity component

Convertible bonds that can be converted to equity share capital at the option of the holder, where the number of shares that would be issued on conversion and the value of the consideration that would be received at that time do not vary, are accounted for as compound financial instruments that contain both a liability component and an equity component.

At initial recognition, the liability component of the convertible bonds is measured as the present value of the future interest and principal payments, discounted at the market rate of interest applicable at the time of initial recognition to similar liabilities that do not have a conversion option. Any excess of proceeds over the amount initially recognized as the liability component is recognized as the equity component. Transaction costs that relate to the issuance of the convertible bonds are allocated to the liability and equity components in proportion to the allocation of proceeds.

The liability component is subsequently carried at amortized cost. The interest expense on the liability component is calculated using the effective interest method. The equity component is recognized in the capital reserve until the bond is converted or redeemed.

If the bond is converted, the capital reserve, together with the carrying amount of the liability component at the time of conversion, is transferred to share capital and share premium as consideration for the shares issued. If the bond is redeemed, the capital reserve is transferred to share premium.

(ii) Other convertible bonds

Convertible bonds issued with a cash settlement option and other embedded derivative features are accounted for as compound financial instruments that contain a liability component and a derivative component.

At initial recognition, the derivative component of the convertible bonds is measured at fair value. Any excess of proceeds over the amount initially recognized as the derivative component is recognized as the liability component. Transaction costs that relate to the issuance of the convertible bonds are allocated to the liability and derivative components in proportion to the allocation of proceeds. The portion of the transaction costs relating to the liability component is recognized initially as part of the liability. The portion relating to the derivative component is recognized immediately as an expense in the consolidated statement of income.

The derivative component is subsequently remeasured at each balance sheet date and any gains or losses arising from change in the fair value are recognized in the consolidated statement of income. The liability component is subsequently carried at amortized cost until extinguished on conversion or redemption. The interest expense recognized in the consolidated statement of income on the liability component is calculated using the effective interest method. Both the liability and the related derivative components are presented together for financial statements reporting purposes (Note 38(g)).

If the convertible bonds are converted, the carrying amounts of the derivative and liability components are transferred to share capital and share premium as consideration for the shares issued. If the convertible bonds are redeemed, any difference between the amount paid and the carrying amounts of both components is recognized in the consolidated statement of income.

(s) Provisions and contingent liability

A provision is recognized for liability of uncertain timing or amount when the Group has a legal or constructive obligation arising as a result of a past event, when it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made.

When it is not probable that an outflow of economic benefits will be required, or the amount cannot be estimated reliably, the obligation is disclosed as a contingent liability, unless the probability of outflow of economic benefits is remote. Possible obligations, whose existence will only be confirmed by the occurrence or non-occurrence of one or more future events are also disclosed as contingent liabilities unless the probability of outflow of economic benefits is remote.

Provisions for future dismantlement costs are initially recognized based on the present value of the future costs expected to be incurred in respect of the Group's expected dismantlement and abandonment costs at the end of related oil and gas exploration and development activities. Any subsequent change in the present value of the estimated costs, other than the change due to passage of time which is regarded as interest cost, is reflected as an adjustment to the provision and oil and gas properties.

(t) Revenue recognition

Revenues associated with the sale of crude oil, natural gas, petroleum and chemical products and ancillary materials are recorded when the customer accepts the goods and the significant risks and rewards of ownership and title have been transferred to the buyer. Revenue from the rendering of services is recognized in the consolidated statement of income upon performance of the services. No revenue is recognized if there are significant uncertainties regarding recovery of the consideration due, the possible return of goods, or when the amount of revenue and the costs incurred or to be incurred in respect of the transaction cannot be measured reliably.

Interest income is recognized on a time apportioned basis that takes into account the effective yield on the asset.

A government grant that becomes receivable as compensation for expenses or losses already incurred with no future related costs is recognized as income in the period in which it becomes receivable.

(u) Borrowing costs

Borrowing costs are expensed in the consolidated statements of income in the period in which they are incurred, except to the extent that they are capitalized as being attributable to the construction of an asset which necessarily takes a period of time to get ready for its intended use.

(v) Repairs and maintenance expenditure

Repairs and maintenance expenditure is expensed as incurred.

(w) Environmental expenditures

Environmental expenditures that relate to current ongoing operations or to conditions caused by past operations are expensed as incurred.

Liabilities related to future remediation costs are recorded when environmental assessments and/or cleanups are probable and the costs can be reliably estimated. As facts concerning environmental contingencies become known to the Group, the Group reassesses its position both with respect to accrued liabilities and other potential exposures.

(x) Research and development expense

Research and development expenditures are expensed in the period in which they are incurred. Research and development expense amounted to RMB 5,629, RMB 5,654 and RMB 5,941 for the years ended December 31, 2014, 2015 and 2016, respectively.

(y) Operating leases

Operating lease payments are charged to the consolidated statement of income on a straight-line basis over the period of the respective leases.

(z) Employee benefits

The contributions payable under the Group's retirement plans are recognized as an expense in the consolidated statement of income as incurred and according to the contribution determined by the plans. Further information is set out in Note 31.

Termination benefits, such as employee reduction expenses, are recognized when, and only when, the Group demonstrably commits itself to terminate employment or to provide benefits as a result of voluntary redundancy by having a detailed formal plan which is without realistic possibility of withdrawal.

(aa) Income tax

Income tax comprises current and deferred tax. Current tax is calculated on taxable income by applying the applicable tax rates. Deferred tax is provided using the balance sheet liability method on all temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes only to the extent that it is probable that future taxable income will be available against which the assets can be utilized. Deferred tax is calculated on the basis of the enacted tax rates or substantially enacted tax rates that are expected to apply in the period when the asset is realized or the liability is settled. The effect on deferred tax of any changes in tax rates is charged or credited to the consolidated statement of income, except for the effect of a change in tax rate on the carrying amount of deferred tax assets and liabilities which were previously charged or credited to other comprehensive income or directly in equity.

The tax value of losses expected to be available for utilization against future taxable income is set off against the deferred tax liability within the same legal tax unit and jurisdiction to the extent appropriate, and is not available for set off against the taxable profit of another legal tax unit. The carrying amount of a deferred tax asset is reviewed at each balance sheet date and is reduced to the extent that it is no longer probable that the related tax benefit will be realized.

(bb) Dividends

Dividends and distributions of profits proposed in the profit appropriation plan which will be authorized and declared after the balance sheet date, are not recognized as a liability at the balance sheet date and are separately disclosed in the notes to the financial statements. Dividends are recognized as a liability in the period in which they are declared.

(cc) Segment reporting

Operating segments, and the amounts of each segment item reported in the consolidated financial statements, are identified from the financial information provided regularly to the Group's chief operating decision maker for the purposes of allocating resources to, and assessing the performance of the Group's various lines of business.

3. OTHER OPERATING REVENUES

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Sale of materials, service and others	43,627	41,524	49,812
Rental income	674	974	909
	44,301	42,498	50,721

4. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

The following items are included in selling, general and administrative expenses:

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Operating lease charges	14,056	14,384	14,410
Impairment losses			
- trade accounts receivable	44	40	230
- other receivables	61	49	(12)
- accounts prepayments	3	(25)	13

5. PERSONNEL EXPENSES

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Salaries, wages and other benefits	49,865	48,741	55,502
Contributions to retirement schemes (Note 31)	7,660	7,878	8,385
	57,525	56,619	63,887

6. TAXES OTHER THAN INCOME TAX

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Consumption tax (i)	136,718	198,754	193,836
Special oil income levy (ii)	22,187	6	-
City construction tax (iii)	13,754	18,195	18,155
Education surcharge	10,212	13,686	13,695
Resources tax (iv)	7,245	4,853	3,871
Other	1,092	855	2,449
	191,208	236,349	232,006

Note:

(i) Consumption tax was levied based on sales quantities of taxable products, tax rate of products is presented as below:

Product	Effective from January 1, 2009 RMB/Ton	Effective from November 29, 2014 RMB/Ton	Effective from December 13, 2014 RMB/Ton	Effective from January 13, 2015 RMB/Ton
Gasoline	1,388.00	1,554.56	1,943.20	2,109.76
Diesel	940.80	1,105.44	1,293.60	1,411.20
Naphtha	1,385.00	1,551.20	1,939.00	2,105.20

Solvent oil	1,282.00	1,435.84	1,794.80	1,948.64
Lubricant oil	1,126.00	1,261.12	1,576.40	1,711.52
Fuel oil	812.00	954.10	1,116.50	1,218.00
Jet fuel oil	996.80	1,171.24	1,370.60	1,495.20

(ii) In accordance with PRC rules and regulations, the threshold above which special oil income levy was imposed (with the five-level progressive tax rates varying from 20% to 40% remaining) has been raised from USD 55 per barrel to USD 65 per barrel from January 1, 2015.

(iii) City construction tax is levied on an entity based on its total paid amount of value-added tax, consumption tax and business tax. Pursuant to the 'Circular on the Overall Promotion of Pilot Program of Levying VAT in place of Business Tax'(Cai Shui [2016] 36) jointly issued by the Ministry of Finance and the State Administration of Taxation, revenue from modern service of the subsidiaries of the Group, are subject to VAT from May 1, 2016, and the applicable tax rate is 6%, while the business tax was from 3% to 5% before then.

(iv) The resources tax rate has been raised from 5% to 6% from December 1, 2014.

7. OTHER OPERATING EXPENSE, NET

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Fines, penalties and compensations	(110)	(90)	(152)
Donations	(125)	(112)	(133)
Loss on disposal of property, plant, equipment and other non-currents assets, net	(1,628)	(748)	(1,528)
Impairment losses on long-lived assets (Note i)	(3,619)	(5,146)	(16,425)
Net realized and unrealized gain on derivative financial instruments not qualified as hedging	7	870	195
Ineffective portion of change in fair value of cash flow hedges	2,260	165	304
Government grants (Note ii)	3,289	5,131	4,101
Gain on dilution and remeasurement of interests in the Pipeline Ltd (Note iii)	-	-	20,562
Others	(230)	(199)	(1,238)
	(156)	(129)	5,686

Note:

(i) Impairment losses recognized on long-term assets of the exploration and production (“E&P”) segments comprised RMB 2,436, RMB 4,213 and RMB 10,594 on property, plant and equipment for the years ended December 31, 2014, 2015 and 2016, respectively, RMB 651 on investment in associates for the year ended December 31, 2015, RMB 1,005 on construction in progress for the year ended December 31, 2016, and RMB 6 on goodwill for the year ended December 31, 2016. The primary factors resulting in the E&P segment impairment loss for the year ended December 31, 2016 were downward revision of oil and gas reserve due to price change and high operating and development cost for certain oil fields. The carrying values of these E&P properties were written down to respective recoverable amounts which were determined based on the present values of the expected future cash flows of the asset using a pre-tax discount rate of 10.13%, 10.80% and 10.47% for the years ended December 31, 2014, 2015 and 2016, respectively. Further future downward revisions to the Group’s oil price outlook by 10% or more would lead to further impairments which, in aggregate, are likely to be material. It is estimated that a general decrease of 10% in oil price, with all other variables held constant, would result in additional impairment loss in E&P segment by approximately RMB 3,010 million. It is estimated that a general increase of 5% in operating cost, with all other variables held constant, would result in additional impairment loss in E&P segment by approximately RMB 1,193 million. It is estimated that a general increase of 5% in discount rate, with all other variables held constant, would result in additional impairment loss in E&P segment by approximately RMB 439 million. The primary factors resulting in th E&P segment impairment losses for the years ended December 31, 2014 and 2015 were unsuccessful development drilling and high operating and development costs for certain oil fields.

Impairment losses recognized for the chemicals segment were RMB 1,106 , RMB 142 and RMB 2,898 for the years ended December 31, 2014, 2015and 2016, respectively, and comprised of impairment losses of and RMB 917, RMB 142 and RMB 2,840 on property, plant and equipment for the years ended December 31, 2014, 2015 and 2016, respectively, RMB 10 and RMB 58 on construction in progress for the year ended December 31, 2014 and 2016, and RMB 179 on intangible assets of the year ended December 31, 2014. Impairment losses recognized for the refining segment were RMB 29, RMB 9 and RMB 1,245 for the years ended December 31, 2014, 2015 and 2016, on property, plant and equipment, respectively, RMB 410 on construction in progress for the year ended December 31, 2016. These impairment losses relate to certain refining and chemicals production facilities that are held for use. The carrying values of these facilities were written down to their recoverable amounts that were primarily determined based on the asset held for use model using the present value of estimated future cash flows of the production facilities using the pre-tax discount rates for the years ended December 31, 2014, 2015 and 2016, respectively. The primary factor resulting in the impairment losses on long-lived assets of the refining and chemicals segments was due to the suspension of operations of certain production facilities for the years ended December 31, 2014, 2015 and 2016.

Impairment losses recognized on long-lived assets of the marketing and distribution segment were RMB 40, RMB 19 and RMB 267 for the years ended December 31, 2014, 2015 and 2016, respectively, and comprised of impairment losses of RMB 38, RMB 10 and

RMB 242 on property, plant and equipment for the years ended December 31, 2014, 2015 and 2016, respectively, impairment losses of RMB 2, RMB 2 and RMB 1 on investments for the years ended December 31, 2014, 2015 and 2016, respectively, impairment losses of RMB 13 on construction in progress for the year ended December 31, 2016, and impairment losses of RMB 7 and RMB 11 on lease prepayments for the year ended December 31, 2015 and 2016, primarily relate to certain service stations and certain construction in progress that were closed or abandoned during respective years. In measuring the amounts of impairment charges, the carrying amounts of these assets were compared to the present value of the expected future cash flows of the assets, as well as information about sales and purchases of similar properties in the same geographic area.

Impairment losses recognized on long-lived assets of the corporate and others segment were RMB 8, RMB 112 for the years ended December 31, 2014 and 2015, respectively and comprised of impairment losses of RMB 8 and RMB 1 on property, plant and equipment for the years ended December 31, 2014 and 2015, respectively, and impairment of RMB 111 on construction in progress for the year ended December 31, 2015.

(ii) Government grants for the years ended December 31, 2014, 2015 and 2016 primarily represent financial appropriation income and non-income tax refunds received from respective government agencies without conditions or other contingencies attached to the receipts of the grants.

(iii) On December 12, 2016, the Group entered into the Capital Injection Agreement in relation to Sinopec Sichuan To East China Gas Pipeline Co., Ltd. ("Pipeline Ltd"), a wholly-owned subsidiary of the Group, with China Life Insurance Company Limited ("China Life") and SDIC Communications Holding Co., Ltd. ("SDIC Holding") (the "Capital Injection Agreement"). According to the provisions of the Capital Injection Agreement, China Life and SDIC Holding made cash contribution to the Pipeline Ltd amounting to RMB 20 billion and RMB 2.8 billion, respectively, in exchange for 43.86% and 6.14% equity interest, respectively, in the Pipeline Ltd. Thereafter, the Group's equity interest in the Pipeline Ltd was diluted from 100% to 50%. Based on the composition and decision making mechanism of the Board of Directors of the Pipeline Ltd, the Group determines that it has only retained the power to participate in the financial and operating policy decisions of the Pipeline Ltd, and was no longer exclusively possessing the power to govern policy decisions of the Pipeline Ltd. Consequently, the Group has deconsolidated the Pipeline Ltd and started accounting for its 50% equity interest in the Pipeline Ltd as an investment in associate company. In this connection, the Group recognized a gain of RMB 20.562 billion, which was resulted from the dilution and the remeasurement of the remaining 50% equity interest in the Pipeline Ltd.

8. INTEREST EXPENSE

	Years ended December 31,		
	2014 RMB	2015 RMB	2016 RMB
Interest expense incurred	11,929	8,273	9,021
Less: Interest expense capitalized*	(1,719)	(1,221)	(859)
	10,210	7,052	8,162
Accretion expenses (Note 27)	1,008	1,081	1,057
Interest expense	11,218	8,133	9,219
* Interest rates per annum at which borrowing costs were capitalized for construction in progress	0.7% to 7.1%	2.6% to 5.9%	2.65% to 4.82%

9. TAX EXPENSE

Tax expense in the consolidated statement of income represents:

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Current tax			
- Provision for the year	18,341	13,677	21,313
- Adjustment of prior years	1,022	279	228
Deferred taxation (Note 21)	(1,792)	(1,343)	(834)
	17,571	12,613	20,707

Reconciliation between actual income tax expense and the expected income tax expense at applicable statutory tax rates is as follows:

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Earnings before income tax	65,818	56,411	80,151
Expected PRC income tax expense at a statutory tax rate of 25%	16,455	14,103	20,038
Tax effect of preferential tax rate (Note i)	(1,722)	(1,033)	83
Effect of income taxes from foreign operations different from taxes at the PRC statutory tax rate	622	391	299
Tax effect of non-deductible expenses	717	788	1,529
Tax effect of non-taxable income	(1,205)	(2,583)	(2,786)
Tax effect of utilization of previously unrecognized tax losses and temporary differences	(27)	(235)	(453)
Tax effect of tax losses not recognized	1,595	828	958
Write-down of deferred tax assets	114	75	811
Adjustment of prior years	1,022	279	228
Actual income tax expense	17,571	12,613	20,707

Note:

(i) The provision for PRC current income tax is based on a statutory income tax rate of 25% of the assessable income of the Group as determined in accordance with the relevant income tax rules and regulations of the PRC, except for certain entities of the Group in western regions in the PRC are taxed at preferential income tax rate of 15% through the year 2020.

10. OTHER COMPREHENSIVE INCOME

	Years ended December 31,								
	2014			2015			2016		
	Before-tax amount RMB	Tax effect RMB	Net-of-tax amount RMB	Before-tax amount RMB	Tax effect RMB	Net-of-tax amount RMB	Before-tax amount RMB	Tax effect RMB	Net-of-tax amount RMB
Cash flow hedges:									
Effective portion of changes in fair value of hedging instruments recognized during the year	265	(47)	218	2,881	(405)	2,476	(3,813)	652	(3,161)
Amounts transferred to initial carrying amount of hedged items	(1,013)	181	(832)	(1,354)	223	(1,131)	13	(2)	11
Amounts transferred to the consolidated statement of income	(4,710)	839	(3,871)	2,273	(455)	1,818	6,279	(1,115)	5,164
Net movement during the year recognized in other comprehensive income	(5,458)	973	(4,485)	3,800	(637)	3,163	2,479	(465)	2,014
Available-for-sale securities:									
Changes in fair value recognized during the year	659	(146)	513	66	(4)	62	(17)	(7)	(24)
Amounts transferred to the consolidated statement of income (i)	(2,317)	579	(1,738)	–	–	–	–	–	–
Net movement during the year recognized in other comprehensive income	(1,658)	433	(1,225)	66	(4)	62	(17)	(7)	(24)
Share of other comprehensive loss of associates and joint ventures	(3,042)	–	(3,042)	(5,356)	–	(5,356)	45	–	45
Foreign currency translation differences	(514)	–	(514)	2,268	–	2,268	4,298	–	4,298
Other comprehensive income	(10,672)	1,406	(9,266)	778	(641)	137	6,805	(472)	6,333

Note:

(i) The Group sold its shares of China Gas Holdings Limited in August 2014, which was accounted for as available-for-sale financial assets prior to the transaction and the accumulated unrealized gain in other comprehensive income of RMB 2,317 was reclassified to the investment income at the completion of this transaction.

11. BASIC AND DILUTED EARNINGS PER SHARE

The calculation of basic earnings per share for the years ended December 31, 2014, 2015 and 2016 is based on the net income attributable to ordinary owners of the Company of RMB 46,639, RMB 32,512 and RMB 46,672, respectively, and the weighted average number of the shares of 116,822,487,451, 120,852,547,200 and 121,071,209,646, respectively.

The calculation of diluted earnings per share for the years ended December 31, 2014, 2015 and 2016 is based on the net income attributable to ordinary owners of the Company of RMB 46,773, RMB 32,510 and RMB 46,669, respectively, and the weighted average number of the shares of 117,242,396,710, 120,852,547,200 and 121,071,209,646, respectively, calculated as follows:

(i) Net income attributable to ordinary owners of the Company (diluted)

	2014 RMB	2015 RMB	2016 RMB
Net income attributable to ordinary owners of the Company	46,639	32,512	46,672
After tax effect of interest expense (net of exchange gain) of the 2007 Convertible Bonds and the 2011 Convertible Bonds	133	–	–
After tax effect of net loss on embedded derivative components of the 2007 Convertible Bonds and the 2011 Convertible Bonds	1	–	–
After tax effect of employee share option scheme of Shanghai Petrochemical	–	(2)	(3)
Net income attributable to ordinary owners of the Company (diluted)	46,773	32,510	46,669

(ii) Weighted average number of shares (diluted)

	2014 Number of shares	2015 Number of shares	2016 Number of shares
Weighted average number of shares as of December 31	116,822,487,451	120,852,547,200	121,071,209,646
Effect of conversion of the 2007 Convertible Bonds	419,909,259	–	–
Weighted average number of shares (diluted) as of December 31	117,242,396,710	120,852,547,200	121,071,209,646

12. TRADE ACCOUNTS RECEIVABLE, NET

	December 31, 2015 RMB	2016 RMB
Amounts due from third parties	34,261	39,994
Amounts due from Sinopec Group Company and fellow subsidiaries	18,672	6,398
Amounts due from associates and joint ventures	3,734	4,580
	56,667	50,972
Less: Impairment losses for bad and doubtful debts	(525)	(683)
Trade accounts receivable, net	56,142	50,289

Impairment losses for bad and doubtful debts are analyzed as follows:

	2014 RMB	2015 RMB	2016 RMB
Balance as of January 1	574	530	525
Provision for the year	44	40	238
Written back for the year	(15)	(13)	(8)
Written off for the year	(57)	(38)	(72)
Others	(16)	6	–
Balance as of December 31	530	525	683

Sales are generally on a cash term. Credit is generally only available for major customers with well-established trading records. Amounts due from Sinopec Group Company and fellow subsidiaries are repayable under the same terms.

Trade accounts receivable (net of impairment losses for bad and doubtful debts) primarily represents receivables that are neither past due nor impaired. These receivables relate to a wide range of customers for whom there is no recent history of default.

13. INVENTORIES

	December 31, 2015 RMB	December 31, 2016 RMB
Crude oil and other raw materials	59,376	75,680
Work in progress	22,762	14,141
Finished goods	66,320	65,772
Spare parts and consumables	1,552	1,838
	150,010	157,431
Less: Allowance for diminution in value of inventories	(4,402)	(920)
	145,608	156,511

Allowance for diminution in value of inventories is analyzed as follows:

	2014 RMB	2015 RMB	2016 RMB
Balance as of January 1	1,751	3,603	4,402
Allowance for the year	3,327	3,687	430
Reversal of allowance on disposal	(136)	(34)	(10)
Written off	(1,327)	(2,931)	(4,021)
Other (decrease)/increase	(12)	77	119
Balance as of December 31	3,603	4,402	920

During the years ended December 31, 2014, 2015 and 2016, costs of inventories recognized as an expense in the consolidated statement of income were RMB 2,411,883, RMB 1,572,798, and RMB 1,461,285, respectively. Such costs include the write-down of inventories of RMB 3,327, RMB 3,687, and RMB 430 respectively, and the reversal of write-down of inventories of RMB 136, RMB 34 and RMB 10, respectively. The write-down of inventories and the reversal of write-down of inventories were recorded in purchased crude oil, products and operating supplies and expenses in the consolidated statement of income. The write-down of inventories which were realized primarily with the sales of inventories for the year ended December 31, 2014, 2015 and 2016 were RMB 1,327, RMB 2,931 and RMB 4,021.

14. PREPAID EXPENSES AND OTHER CURRENT ASSETS

	December 31, 2015 RMB	December 31, 2016 RMB
Other receivables	20,183	26,056
Advances to suppliers	2,920	3,749
Value-added input tax to be deducted	20,299	18,055
Prepaid income tax	–	1,145
Derivative financial instruments	7,875	762
	51,277	49,767

15. PROPERTY, PLANT AND EQUIPMENT

	Plants and buildings RMB	Oil and gas properties RMB	Equipment, machinery and others RMB	Total RMB
Cost:				
Balance as of January 1, 2015	101,648	569,172	815,123	1,485,943
Additions	268	2,899	565	3,732
Transferred from construction in progress	4,928	39,949	74,594	119,471
Contributed to associates and joint ventures	(4)	–	(8)	(12)
Reclassifications	1,780	(1,008)	(772)	–
Reclassification to lease prepayments and other long-term assets	(380)	–	(1,170)	(1,550)
Exchange adjustments	112	2,201	157	2,470
Disposals	(479)	(79)	(7,778)	(8,336)
Balance as of December 31, 2015	107,873	613,134	880,711	1,601,718
Balance as of January 1, 2016	107,873	613,134	880,711	1,601,718
Additions	277	3,420	626	4,323
Transferred from construction in progress	5,901	31,473	50,025	87,399
Reclassifications	1,426	(115)	(1,311)	–
Reclassification to lease prepayments and other long-term assets	(130)	–	(2,202)	(2,332)
Exchange adjustments	82	2,800	187	3,069
Disposals	(509)	(27)	(35,100)	(35,636)
Balance as of December 31, 2016	114,920	650,685	892,936	1,658,541
Accumulated depreciation:				
Balance as of January 1, 2015	40,523	329,267	411,871	781,661
Depreciation for the year	3,541	40,200	44,078	87,819
Impairment losses for the year	32	4,213	130	4,375
Reclassifications	679	(766)	87	–
Contribution to associates and joint ventures	–	–	(4)	(4)
Reclassification to lease prepayments and other long-term assets	(68)	(2)	(86)	(156)
Written back on disposals	(278)	(65)	(6,533)	(6,876)
Exchange adjustments	40	1,344	66	1,450
Balance as of December 31, 2015	44,469	374,191	449,609	868,269
Balance as of January 1, 2016	44,469	374,191	449,609	868,269
Depreciation for the year	3,815	49,005	47,914	100,734
Impairment losses for the year	440	10,580	3,901	14,921
Reclassifications	369	(58)	(311)	–
Reclassification to lease prepayments and other long-term assets	(14)	–	(316)	(330)
Written back on disposals	(534)	(22)	(17,067)	(17,623)
Exchange adjustments	27	1,865	84	1,976
Balance as of December 31, 2016	48,572	435,561	483,814	967,947
Net book value:				
Balance as of January 1, 2015	61,125	239,905	403,252	704,282
Balance as of December 31, 2015	63,404	238,943	431,102	733,449
Balance as of December 31, 2016	66,348	215,124	409,122	690,594

Note:

The additions to the oil and gas properties of the Group for the years ended December 31, 2015 and 2016 included RMB 2,899 and RMB 3,420, respectively, of the estimated dismantlement costs for site restoration (Note 27).

16. CONSTRUCTION IN PROGRESS

	2015 RMB	2016 RMB
Balance as of January 1	177,716	152,325
Additions	106,809	81,837
Dry hole costs written off	(6,099)	(7,467)
Transferred to property, plant and equipment	(119,471)	(87,399)
Reclassification to lease prepayments and other long-term assets	(5,600)	(6,900)
Impairment losses for the year	(111)	(1,486)
Disposals	(1,009)	(1,445)
Exchange adjustments	90	116
Balance as of December 31	152,325	129,581

Net changes in capitalized cost of exploratory wells included in the Group's construction in progress in the E&P segment are analyzed as follows:

	2014 RMB	2015 RMB	2016 RMB
At beginning of year	19,152	19,286	16,772
Additions, net of amount that were capitalized and subsequently expensed in the same year, pending the determination of proved reserves	9,480	5,901	6,321
Transferred to oil and gas properties based on the determination of proved reserves	(3,891)	(2,615)	(3,716)
Dry hole costs written off	(5,455)	(5,800)	(7,185)
At end of year	19,286	16,772	12,192

Aging of capitalized exploratory well costs based on the date the drilling was completed are analyzed as follows:

	December 31, 2014 RMB	2015 RMB	2016 RMB
One year or less	9,743	8,074	4,731
Over one year	9,543	8,698	7,461
	19,286	16,772	12,192

Capitalized exploratory wells costs aged over one year are related to wells for which the drilling results are being further evaluated or the development plans are being formulated.

The geological and geophysical costs paid during the years ended December 31, 2014, 2015 and 2016 amounted to RMB 5,028, RMB 4,347 and RMB 2,899, respectively.

17. GOODWILL

	December 31, 2015 RMB	December 31, 2016 RMB
Cost	13,928	14,016
Less: accumulated impairment losses	(7,657)	(7,663)
	6,271	6,353

Impairment tests for cash-generating units containing goodwill

Goodwill is allocated to the following Group's cash-generating units:

	Principal activities	December 31, 2015 RMB	December 31, 2016 RMB
Sinopec Beijing Yanshan Petrochemical Branch ("Sinopec Yanshan")	Manufacturing of intermediate petrochemical products and petroleum products	1,157	1,157
Sinopec Zhenhai Refining and Chemical Branch ("Sinopec Zhenhai")	Manufacturing of intermediate petrochemical products and petroleum products	4,043	4,043
Sinopec (Hong Kong) Limited	Trading of petrochemical products	853	941
Multiple units without individually significant goodwill		218	212
		6,271	6,353

Goodwill represents the excess of the cost of purchase over the fair value of the underlying assets and liabilities. The recoverable amounts of the above cash generating units are determined based on value in use calculations. These calculations use cash flow projections based on financial budgets approved by management covering a one-year period and pre-tax discount rates primarily ranging from 10.7% to 11.3% and 10.4% to 11.0% for the years ended December 31, 2015 and 2016, respectively. Cash flows beyond the one-year period are maintained constant.

Key assumptions used for cash flow forecasts for these entities are the gross margin and sales volume. Management determined the budgeted gross margin based on the gross margin achieved in the period immediately before the budget period and management's expectation on the future trend of the prices of crude oil and petrochemical products. The sales volume was based on the production capacity and/or the sales volume in the period immediately before the budget period.

18. INTEREST IN ASSOCIATES

The Group's investments in associates are with companies primarily engaged in the oil and gas, petrochemical, and marketing and distribution operations in the PRC.

The Group's principal associates are as follows:

Name of company	Form of business structure	Particulars of issued and paid up capital	Percentage of equity held by the Company %	Percentage of equity held by the Company's subsidiaries %	Principal activities	Country of incorporation	Principal place of business
Sinopec Sichuan to East China Gas Pipeline Co., Ltd. ("Pipeline Ltd")	Incorporated	Registered capital RMB 200	–	50.00	Operation of natural gas pipelines and auxiliary facilities	PRC	PRC
Sinopec Finance Company Limited ("Sinopec Finance")	Incorporated	Registered capital RMB 10,000	49.00	–	Provision of non-banking financial services	PRC	PRC
Zhongtian Synergetic Energy Company Limited ("Zhongtian Synergetic Energy")	Incorporated	Registered capital RMB 16,000	–	38.75	Manufacturing of coal-chemical products	PRC	PRC
China Aviation Oil Supply Company Limited ("China Aviation Oil")	Incorporated	Registered capital RMB 3,800	–	29.00	Marketing and distribution of refined petroleum products	PRC	PRC
Caspian Investments Resources Ltd. ("CIR") (i)	Incorporated	Registered capital USD 10,000	–	50.00	Crude oil and natural gas extraction	British Virgin Islands	The Republic of Kazakhstan

Summarized financial information and reconciliation to their carrying amounts in respect of the Group's principal associates:

Pipeline Ltd (ii)	Sinopec Finance	Zhongtian Synergetic Energy	China Aviation Oil	CIR (i)
December 31,	December 31,	December 31,	December 31,	December 31,

	2016 RMB	2015 RMB	2016 RMB	2015 RMB	2016 RMB	2015 RMB	2016 RMB	2015 RMB	2016 RMB
Current assets	11,835	154,437	149,457	10,168	7,292	8,240	13,115	4,826	5,120
Non-current assets	25,395	15,739	16,478	37,571	50,301	5,220	5,671	7,768	3,842
Current liabilities	(5,009)	(147,952)	(142,386)	(16,536)	(8,078)	(4,717)	(6,297)	(1,305)	(928)
Non-current liabilities	(4)	(114)	(88)	(15,407)	(32,137)	(321)	(417)	(1,282)	(883)
Net assets	32,217	22,110	23,461	15,796	17,378	8,422	12,072	10,007	7,151
Net assets attributable to owners of the Company	32,217	22,110	23,461	15,796	17,378	7,438	10,743	10,007	7,151
Net assets attributable to non-controlling interests	–	–	–	–	–	984	1,329	–	–
Share of net assets from associates	16,109	10,834	11,496	6,121	6,734	2,157	3,115	5,004	3,576
Others (iii)	6,691	–	–	–	–	–	–	–	–
Carrying Amounts	22,800	10,834	11,496	6,121	6,734	2,157	3,115	5,004	3,576

Summarized statement of comprehensive income

Year ended December 31	Pipeline Ltd (ii, iv)	Sinopec Finance			Zhongtian Synergetic Energy(v)			China Aviation Oil			CIR(i)	
	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016	2015	2016
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Operating revenues	191	2,706	2,533	2,442	–	–	–	115,725	78,623	74,622	687	2,205
Net income for the year	51	2,522	3,484	1,526	–	–	–	1,097	2,248	3,630	(90)	(3,518)
Other comprehensive income	–	(508)	28	(175)	–	–	–	–	–	–	(4,017)	662
Total comprehensive income	51	2,014	3,512	1,351	–	–	–	1,097	2,248	3,630	(4,107)	(2,856)
Dividends declared by associates	23	–	–	–	–	–	–	309	336	–	–	–
Share of net income/(loss) from associates	26	1,236	1,707	748	–	–	–	318	495	892	(45)	(1,759)
Share of other comprehensive income from associates	–	(249)	14	(86)	–	–	–	–	–	–	(2,009)	331

The share of net income for years ended December 31, 2014, 2015 and 2016 in all individually immaterial associates accounted for using equity method in aggregate were RMB 1,498, RMB 1,418 and RMB 1,977, respectively.

The share of other comprehensive loss for the years ended December 31, 2014, 2015 and 2016 in all individually immaterial associates accounted for using equity method in aggregate were RMB 57, RMB 632 and RMB 384, respectively.

The carrying amount as of December 31, 2015 and 2016 of all individually immaterial associates accounted for using equity method in aggregate were RMB 16,596 and RMB 18,395, respectively.

Note:

(i) In August 2015, one of the subsidiaries of Sinopec Group Company completed the acquisition from LUKOIL OVERSEAS WEST PROJECT Ltd. a 50% equity interests in CIR and revised CIR's Articles of Association subsequently. According to the revised CIR's Articles of Association, the Group retained significant influences over CIR. As a result, the Group reclassified the investment interest in CIR from joint ventures to associates. The summarized statement of comprehensive income for the year ended December 31, 2015 of CIR represents the operating result for the period from the date when the Group reclassified the investment interest in CIR from joint ventures to associates to December 31, 2015.

(ii) Management is in the process of allocating the fair value to identifiable assets and liabilities of Pipeline Ltd, therefore the summarized financial information of Pipeline Ltd is based on management's preliminary fair value allocation which may be subject to further change.

(iii) Other reflects the excess of fair value of the consideration transferred over the Group's share of the fair value of the investee's identifiable assets and liabilities as of the transaction date.

(iv) The summarized statement of comprehensive income of Pipeline Ltd represents the operating results of the Pipeline Ltd for the period from the date when the Group lost control to December 31, 2016 (Note 7(iii)).

(v) The main asset of Zhongtian Synergetic Energy was under construction during the year ended December 31, 2014, 2015 and 2016.

19. INTEREST IN JOINT VENTURES

The Group's principal interests in joint ventures which are incorporated companies are as follows:

Name of company	Country of incorporation	Particulars of issued and paid up capital	Percentage of equity held by the Company %	Percentage of equity held by the Company's subsidiaries %	Principal activities	Principal place of business
Fujian Refining & Petrochemical Company Limited ("FREP")	PRC	Registered capital RMB 14,758	–	50.00	Manufacturing refining oil products	PRC
BASF-YPC Company Limited ("BASF-YPC")	PRC	Registered capital RMB 12,547	30.00	10.00	Manufacturing and distribution of petrochemical products	PRC
Mansarovar Energy Colombia Ltd. ("Mansarovar")	British Bermuda	Registered capital USD 12,000	–	50.00	Crude oil and natural gas extraction	Colombia
Taihu Limited ("Taihu")	Cyprus	Registered capital USD 25,000	–	49.00	Crude oil and natural gas extraction	Russia
Yanbu Aramco Sinopec Refining Company Ltd. ("YASREF")(i)	Saudi Arabia	Registered capital USD 1,560 million	–	37.50	Petroleum refining and processing business	Saudi Arabia

Summarized balance sheet and reconciliation to their carrying amounts in respect of the Group's principal joint ventures:

	FREP December 31,		BASF-YPC December 31,		Mansarovar December 31,		Taihu December 31,		YASREF December 31,	
	2015 RMB	2016 RMB	2015 RMB	2016 RMB	2015 RMB	2016 RMB	2015 RMB	2016 RMB	2015 RMB	2016 RMB
Current assets										
Cash and cash equivalents	2,517	8,172	488	1,394	262	499	78	1,165	4,171	1,259
Other current assets	7,396	10,269	4,765	4,852	759	569	2,243	1,616	5,965	6,826
Total current assets	9,913	18,441	5,253	6,246	1,021	1,068	2,321	2,781	10,136	8,085
Non-current assets	25,585	21,903	15,543	13,530	7,433	4,050	5,662	8,279	54,027	57,054
Current liabilities										
Current financial liabilities (iii)	(1,424)	(1,781)	(2,005)	(783)	–	–	(2,315)	(334)	(3,362)	(1,187)
Other current liabilities	(3,116)	(4,643)	(1,864)	(2,107)	(767)	(599)	(1,088)	(1,616)	(7,886)	(6,466)
Total current liabilities	(4,540)	(6,424)	(3,869)	(2,890)	(767)	(599)	(3,403)	(1,950)	(11,248)	(7,653)

Non-current liabilities										
Non-current financial liabilities (iv)	(21,906)	(19,985)	(3,113)	(1,492)	–	–	(26)	(49)	(39,214)	(43,028)
Other non-current liabilities	(271)	(252)	–	(10)	(3,320)	(895)	(1,337)	(2,130)	(978)	(1,004)
Total non-current liabilities	(22,177)	(20,237)	(3,113)	(1,502)	(3,320)	(895)	(1,363)	(2,179)	(40,192)	(44,032)
Net assets	8,781	13,683	13,814	15,384	4,367	3,624	3,217	6,931	12,723	13,454
Net assets attributable to owners of the company	8,781	13,683	13,814	15,384	4,367	3,624	3,106	6,690	12,723	13,454
Net assets attributable to non-controlling interests	–	–	–	–	–	–	111	241	–	–
Share of net assets from joint ventures	4,391	6,842	5,526	6,154	2,184	1,812	1,522	3,278	4,771	5,045
Other (v)	–	–	–	–	–	–	729	743	–	–
Carrying Amounts	4,391	6,842	5,526	6,154	2,184	1,812	2,251	4,021	4,771	5,045

Summarized statement of comprehensive income

	FREP			BASF-YPC			Mansarovar			Taihu			YA
Year ended December 31,	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	20 RM
Operating revenues	70,346	48,758	41,764	22,191	15,430	17,323	3,781	1,876	1,363	18,183	10,725	9,658	31
Depreciation, depletion and amortization	(52)	(53)	(52)	(15,649)	(2,312)	(2,275)	(1,870)	(782)	(996)	(1,501)	(1,279)	(1,043)	(1
Interest income	28	33	130	26	29	19	31	9	174	–	–	40	13
Interest expense	(1,263)	(1,130)	(929)	(356)	(239)	(173)	–	(15)	(192)	(54)	(119)	(113)	(7
(Loss)/earning before income tax	(1,628)	3,857	6,476	373	214	2,606	641	(1,847)	(1,316)	3,014	3,455	2,411	(2
Tax expense	244	(918)	(1,574)	(94)	(56)	(648)	(897)	(333)	303	(809)	(733)	(518)	13
Net (loss)/income for the year	(1,384)	2,939	4,902	279	158	1,958	(256)	(2,180)	(1,013)	2,205	2,722	1,893	(2
Other comprehensive income	–	–	–	–	–	–	24	290	270	(5,373)	(2,633)	1,851	73
Total comprehensive income	(1,384)	2,939	4,902	279	158	1,958	(232)	(1,890)	(743)	(3,168)	89	3,744	49
Dividends declared by a joint venture	–	–	–	933	470	155	–	–	–	–	–	–	–
Share of net (loss)/income from joint ventures	(692)	1,470	2,451	112	63	783	(128)	(1,090)	(506)	1,043	1,287	895	(9
Share of other comprehensive income from joint ventures	–	–	–	–	–	–	12	145	134	(2,541)	(1,245)	875	27

The share of net income for the year ended December 31, 2014, 2015 and 2016 in all individually immaterial joint ventures accounted for using equity method in aggregate were RMB 601, RMB 2,897 and RMB 3,768, respectively.

The share of other comprehensive loss for the years ended December 31, 2014, 2015 and 2016 in all individually immaterial joint ventures accounted for using equity method in aggregate were RMB 239, RMB 324 and RMB 1,068, respectively.

The carrying amount as of year ended December 31, 2015 and 2016 of all individually immaterial joint ventures accounted for using equity method in aggregate were RMB 24,458 and RMB 26,822, respectively.

Note:

(i) Pursuant to the resolution passed at the Directors' meeting held on October 31, 2014 and the purchase agreement entered into with relevant vendors, the Group completed the acquisition from the Sinopec Group Company a 37.5% equity interests in YASREF for a consideration of approximately USD 562 (approximately RMB 3,439) and also injected capital of approximately USD 199 (approximately RMB 1,216) to YASREF on December 31, 2014.

(ii) The summarized statement of comprehensive income of CIR represents the operating result for the period from January 1, 2015 to the date when the Group reclassified the investment interest in CIR from joint ventures to associates (Note 18(i)).

(iii) Excluding trade accounts payable and other payables.

(iv) Excluding provisions.

(v) Other reflects the excess of fair value of the consideration transferred over the Group's share of the fair value of the investee's identifiable assets and liabilities as of the acquisition date.

20. AVAILABLE-FOR-SALE FINANCIAL ASSETS

	December 31, 2015 RMB	December 31, 2016 RMB
Equity securities, listed and at quoted market price	261	262
Other investment, unlisted and at cost	10,732	11,175
	10,993	11,437
Less: Impairment losses for investments	(29)	(29)
	10,964	11,408

Other investment, unlisted and at cost, represents the Group's interests in privately owned enterprises which are mainly engaged in oil and natural gas activities and chemical production.

The impairment losses relating to investments for the years ended December 31, 2015 and 2016 amounted to RMB nil and RMB nil, respectively.

21. DEFERRED TAX ASSETS AND LIABILITIES

Deferred tax assets and deferred tax liabilities before offset are attributable to the items detailed in the table below:

	Assets		Liabilities		Net balance	
	December 31,		December 31,		December 31,	
	2015	2016	2015	2016	2015	2016
	RMB	RMB	RMB	RMB	RMB	RMB
Current						
Receivables and inventories	1,755	347			1,755	347
Accruals	413	391			413	391
Cash flow hedges	348	27	(98)	(242)	250	(215)
Non-current						
Property, plant and equipment	8,209	11,264	(17,340)	(14,615)	(9,131)	(3,351)
Tax losses carried forward	5,883	2,477			5,883	2,477
Others	98	133	(58)	(229)	40	(96)
Deferred tax assets/(liabilities)	16,706	14,639	(17,496)	(15,086)	(790)	(447)

As of December 31, 2015and 2016, certain subsidiaries of the Company did not recognize deferred tax of deductible loss carried forward of RMB 19,338 and RMB 19,194, respectively, of which RMB 4,080 and RMB 3,833 were incurred for the years ended December 31, 2015and 2016, respectively, because it was not probable that the related tax benefit will be realized. Those deductible tax losses carried forward of RMB 3,777, RMB 2,634, RMB 4,870, RMB 4,080 and RMB 3,833 will expire in 2017, 2018, 2019, 2020, 2021 and after, respectively.

Periodically, management performed assessment on the probability that future taxable profit will be available over the period which the deferred tax assets can be realized or utilized. In assessing the probability, both positive and negative evidence was considered, including whether it is probable that the operations will have sufficient future taxable profits over the periods which the deferred tax assets are deductible or utilized and whether the tax losses result from identifiable causes which are unlikely to recur. During the years ended December 31, 2015 and 2016, write-down of deferred tax assets amounted to RMB 75 and RMB 811 related to the expiration of tax loss, respectively.

Movements in deferred tax assets and liabilities are as follows:

	Balance as of January 1, 2014 RMB	Recognized in consolidated statement of income RMB	Recognized in other comprehensive income RMB	Others RMB	Balance as of December 31, 2014 RMB
Current					
Receivables and inventories	3,315	(432)			2,883
Accruals	357	(99)			258
Cash flow hedges	(86)		973		887
Non-current					
Property, plant and equipment	(8,390)	(42)	(21)	(182)	(8,635)
Tax losses carried forward	2,261	1,213			3,474
Embedded derivative component of the convertible bonds	(870)	1,152			282
Available-for-sale securities	(436)	6	433		3
Others	13	(6)			7
Net deferred tax liabilities	(3,836)	1,792	1,385	(182)	(841)

	Balance as of January 1, 2015 RMB	Recognized in consolidated statement of income RMB	Recognized in other comprehensive income RMB	Others RMB	Balance as of December 31, 2015 RMB
Current					
Receivables and inventories	2,883	(1,131)	3		1,755
Accruals	258	155			413
Cash flow hedges	887		(637)		250
Non-current					
Property, plant and equipment	(8,635)	(113)	(383)		(9,131)
Tax losses carried forward	3,474	2,398	11		5,883
Embedded derivative component of the convertible bonds	282			(282)	
Available-for-sale securities	3	1	(4)		
Others	7	33			40
Net deferred tax liabilities	(841)	1,343	(1,010)	(282)	(790)

	Balance as of January 1, 2016 RMB	Recognized in consolidated statement of income RMB	Recognized in other comprehensive income RMB	Others RMB	Balance as of December 31, 2016 RMB
Current					
Receivables and inventories	1,755	(1,506)	6	92	347

Accruals	413	(22)			391
Cash flow hedges	250		(465)		(215)
Non-current					
Property, plant and equipment	(9,131)	6,063	(392)	109	(3,351)
Tax losses carried forward	5,883	(3,426)	20		2,477
Available-for-sale securities		(139)	(7)	146	
Others	40	(136)			(96)
Net deferred tax liabilities	(790)	834	(838)	347	(447)

22. LEASE PREPAYMENTS

	2015 RMB	2016 RMB
Cost:		
Balance at January 1	59,866	63,324
Additions	1,835	300
Transferred from construction in progress	3,125	4,279
Transferred from other long-term assets	543	994
Reclassification to other assets	(536)	(229)
Disposals	(1,509)	(422)
Exchange adjustments	—	221
Balance at December 31	63,324	68,467
Accumulated amortization:		
Balance at January 1	10,725	12,275
Amortization charge for the year	1,572	1,840
Transferred from other long-term assets	111	132
Reclassification to other assets	(113)	(12)
Written back on disposals	(20)	(83)
Exchange adjustments	—	74
Balance at December 31	12,275	14,226
Net book value:	51,049	54,241

23. LONG-TERM PREPAYMENTS AND OTHER ASSETS

	December 31, 2015 RMB	December 31, 2016 RMB
Operating rights of service stations	26,097	26,896
Long-term receivables from and prepayment to Sinopec Group Company and fellow subsidiaries	17,759	20,385
Prepayments for construction projects to third parties	2,989	2,234
Others (i)	20,946	20,630
Balance at December 31	67,791	70,145

Note:

(i) Others mainly comprise prepaid operating lease charges over one year and catalyst expenditures.

The cost of operating rights of service stations is charged to expense on a straight-line basis over the respective periods of the rights. The movement of operating rights of service stations is as follows:

	2015 RMB	2016 RMB
Operating rights of service stations		
Cost:		
Balance at January 1	32,748	34,407
Additions	1,720	2,670
Decreases	(61)	(169)
Balance at December 31	34,407	36,908
Accumulated amortization:		
Balance at January 1	6,673	8,310

Additions	1,643	1,777
Decreases	(6)	(75)
Balance at December 31	8,310	10,012
Net book value at December 31	26,097	26,896

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24. SHORT-TERM AND LONG-TERM DEBTS AND LOANS FROM SINOPEC GROUP COMPANY AND FELLOW SUBSIDIARIES

Short-term debts represent:

	December 31, 2015 RMB	December 31, 2016 RMB
Third parties' debts		
Short-term bank loans	31,036	11,944
RMB denominated	11,357	10,931
US Dollar denominated	11,824	1,013
Euro denominated	7,855	
Current portion of long-term bank loans	5,613	8,795
RMB denominated	5,559	8,753
US Dollar denominated	54	42
Current portion of long-term corporate bonds	4,868	29,500
RMB denominated		29,500
US Dollar denominated	4,868	
	10,481	38,295
Corporate bonds (i)	30,000	6,000
	71,517	56,239
Loans from Sinopec Group Company and fellow subsidiaries		
Short-term loans	43,693	18,430
RMB denominated	10,806	2,858
US Dollar denominated	32,878	13,577
Hong Kong Dollar denominated	5	1,969
Euro denominated	4	5
Singapore Dollar denominated		21
Current portion of long-term loans	236	150
RMB denominated	50	150
US Dollar denominated	186	
	43,929	18,580
	115,446	74,819

The Group's weighted average interest rates on short-term loans were 1.7% and 2.42% as of December 31, 2015 and 2016, respectively.

Long-term debts represent:

Interest rate and final maturity		December 31, 2015 RMB	December 31, 2016 RMB
Third parties' debts			
Long-term bank loans			
Renminbi denominated	Interest rates ranging from 1.08% to 4.41% per annum as of December 31, 2016 with maturities through 2030	17,345	26,058
US Dollar denominated	Interest rates ranging from to 1.30% to 4.29% per annum as of December 31, 2016 with maturities through 2031	461	426
		17,806	26,484
Corporate bonds(ii)			
Renminbi denominated	Fixed interest rates ranging from 3.30% to 5.68% per annum as of December 31, 2016 with maturities through 2022	65,500	65,500
US Dollar denominated	Fixed interest rates ranging from 1.25 % to 4.25 % per annum as of December 31, 2016 with maturities through 2043	22,621	18,985
		88,121	84,485
Total third parties' long-term debts		105,927	110,969
Less: Current portion		(10,481)	(38,295)
		95,446	72,674
Long-term loans from Sinopec Group Company and fellow subsidiaries			
Renminbi denominated	Interest rates ranging from interest free to 5.75% per annum as of December 31, 2016 with maturities through 2021	44,350	44,922
US Dollar denominated	No loans as of December 31, 2016	186	
Less: Current portion		(236)	(150)
		44,300	44,772
		139,746	117,446

Short–term and long–term bank loans, loans from Sinopec Group Company and fellow subsidiaries are primarily unsecured and carried at amortized cost.

Note:

(i)

The Company issued 180–day corporate bonds of face value RMB 10 billion to corporate investors in the PRC debenture market on September 23, 2015 at par value of RMB 100.The effective cost of the 180–day corporate bonds is 2.99% per annum. The short–term bonds were due on March 23, 2016 and have been fully paid by the Group at maturity.

The Company issued 182–day corporate bonds of face value RMB 16 billion to corporate investors in the PRC debenture market on December 14, 2015 at par value of RMB 100.The effective cost of the 182–day corporate bonds is 2.90% per annum. The short–term bonds were due on June 14, 2016 and have been fully paid by the Group at maturity.

The Company issued 180–day corporate bonds of face value RMB 4 billion to corporate investors in the PRC debenture market on December 31, 2015 at par value of RMB 100.The effective cost of the 180–day corporate bonds is 2.75% per annum. The short-term bonds were due on June 30, 2016 and have been fully paid by the Group at maturity.

The Company issued 182–day corporate bonds of face value RMB 6 billion to corporate investors in the PRC debenture market on September 12, 2016 at par value of RMB 100. The effective cost of the 182–day corporate bonds is 2.54% per annum.

(ii) These corporate bonds are carried at amortized cost. At December 31, 2016, RMB 18,985 (USD denominated corporate bonds) are guaranteed by Sinopec Group Company.

25. TRADE ACCOUNTS AND BILLS PAYABLE

	December 31, 2015 RMB	December 31, 2016 RMB
Amounts due to third parties	117,342	154,882
Amounts due to Sinopec Group Company and fellow subsidiaries	10,348	13,168
Amounts due to associates and joint ventures	2,868	6,251
	130,558	174,301
Bills payable	3,566	5,828
Trade accounts and bills payable measured at amortized cost	134,124	180,129

26. ACCRUED EXPENSES AND OTHER PAYABLES

	December 31, 2015 RMB	December 31, 2016 RMB
Salaries and welfare payable	1,185	1,618
Interest payable	1,457	1,396
Payables for constructions	58,778	52,827
Other payables	23,912	21,468
Financial liabilities carried at amortized costs	85,332	77,309
Taxes other than income tax	31,444	46,835
Receipts in advance	92,688	95,928
Derivative financial instruments	2,750	4,472
	212,214	224,544

27. PROVISIONS

Provisions primarily represent provision for future dismantlement costs of oil and gas properties. The Group has mainly committed to the PRC government to establish certain standardized measures for the dismantlement of its oil and gas properties by making reference to the industry practices and is thereafter constructively obligated to take dismantlement measures of its oil and gas properties.

Movement of provision of the Group's obligations for the dismantlement of its oil and gas properties is as follows:

	2014 RMB	2015 RMB	2016 RMB

Balance as of January 1	26,004	29,613	33,115
Provision for the year	3,309	2,899	3,420
Accretion expenses	1,008	1,081	1,057
Utilized	(714)	(599)	(843)
Exchange adjustments	6	121	169
Balance as of December 31	29,613	33,115	36,918

28. SHARE CAPITAL

	December 31, 2015 RMB	2016 RMB
Registered, issued and fully paid		
95,557,771,046 listed A shares (2015: 95,557,771,046) of RMB 1.00 each	95,558	95,558
25,513,438,600 listed H shares (2015: 25,513,438,600) of RMB 1.00 each	25,513	25,513
	121,071	121,071

The Company was established on February 25, 2000 with a registered capital of 68.8 billion domestic state-owned shares with a par value of RMB 1.00 each. Such shares were issued to Sinopec Group Company in consideration for the assets and liabilities of the Predecessor Operations transferred to the Company (Note 1).

Pursuant to the resolutions passed at an Extraordinary General Meeting held on July 25, 2000 and approvals from relevant government authorities, the Company is authorized to increase its share capital to a maximum of 88.3 billion shares with a par value of RMB 1.00 each and offer not more than 19.5 billion shares with a par value of RMB 1.00 each to investors outside the PRC. Sinopec Group Company is authorized to offer not more than 3.5 billion shares of its shareholdings in the Company to investors outside the PRC. The shares sold by Sinopec Group Company to investors outside the PRC would be converted into H shares.

In October 2000, the Company issued 15,102,439,000 H shares with a par value of RMB 1.00 each, representing 12,521,864,000 H shares and 25,805,750 American Depositary Shares ("ADSs", each representing 100 H shares), at prices of HKD 1.59 per H share and USD 20.645 per ADS, respectively, by way of a global initial public offering to Hong Kong and overseas investors. As part of the global initial public offering, 1,678,049,000 state-owned ordinary shares of RMB 1.00 each owned by Sinopec Group Company were converted into H shares and sold to Hong Kong and overseas investors.

In July 2001, the Company issued 2.8 billion listed A shares with a par value of RMB 1.00 each at RMB 4.22 by way of a public offering to natural persons and institutional investors in the PRC.

During the year ended December 31, 2010, the Company issued 88,774 listed A shares with a par value of RMB 1.00 each, as a result of exercise of 188,292 warrants entitled to the Bonds with Warrants.

During the year ended December 31, 2011, the Company issued 34,662 listed A shares with a par value of RMB 1.00 each, as a result of conversion by the holders of the 2011 Convertible Bonds.

During the year ended December 31, 2012, the Company issued 117,724,450 listed A shares with a par value of RMB 1.00 each, as a result of conversion by the holders of the 2011 Convertible Bonds.

On February 14, 2013, the Company issued 2,845,234,000 listed H shares ("the Placing") with a par value of RMB 1.00 each at the Placing Price of HKD 8.45 per share. The aggregate gross proceeds from the Placing amounted to approximately HKD 24,042,227,300 and the aggregate net proceeds (after deduction of the commissions and estimated expenses) amounted to approximately HKD 23,970,100,618.

In June 2013, the Company issued 21,011,962,225 listed A shares and 5,887,716,600 listed H shares as a result of bonus issues of 2 shares converted from the retained earnings pursuant to the shareholders' approval at the Annual General Meeting on May 29, 2013, and 1 share transferred from the share premium for every 10 existing shares.

During the year ended December 31, 2013, the Company issued 114,076 listed A shares with a par value of RMB 1.00 each, as a result of conversion by the holders of the 2011 Convertible Bonds (Note 38(g)).

During the year ended December 31, 2014, the Company issued 1,715,081,853 listed A shares with a par value of RMB 1.00 each, as a result of conversion by the holders of the 2011 Convertible Bonds (Note 38(g)).

During the year ended December 31, 2015, the Company issued 2,790,814,006 listed A shares with a par value of RMB 1.00 each, as a result of conversion by the holders of the 2011 Convertible Bonds (Note 38(g)).

All A shares and H shares rank pari passu in all material aspects.

Capital management

Management optimizes the structure of the Group's capital, which comprises of equity and debts. In order to maintain or adjust the capital structure of the Group, management may cause the Group to issue new shares, adjust the capital expenditure plan, sell assets to reduce debt, or adjust the proportion of short-term and long-term loans. Management monitors capital on the basis of debt-to-capital ratio, which is calculated by dividing long-term loans (excluding current portion), including long-term debts and loans from Sinopec Group Company and fellow subsidiaries, by the total equity attributable to owners of the Company and long-term loans (excluding current portion), and liability-to-asset ratio, which is calculated by dividing total liabilities by total assets. Management's strategy is to make appropriate adjustments according to the Group's operating and investment needs and the changes of market conditions, and to maintain the debt-to-capital ratio and the liability-to-asset ratio of the Group at a range considered reasonable. The debt-to-capital ratio of the Group was 17.1% and 14.2% as of December 31, 2015 and 2016, respectively. The liability-to-asset ratio of the Group was 45.5% and 44.5% as of December 31, 2015 and 2016, respectively.

The schedules of the contractual maturities of loans and commitments are disclosed in Notes 24 and 29, respectively.

There were no changes in the management's approach to capital management of the Group during the year. Neither the Company nor any of its subsidiaries is subject to externally imposed capital requirements.

29. COMMITMENTS AND CONTINGENT LIABILITIES

Operating lease commitments

The Group leases land and buildings, service stations and other equipment through non-cancellable operating leases. These operating leases do not contain provisions for contingent lease rentals. None of the rental agreements contain escalation provisions that may require higher future rental payments.

As of December 31, 2015and 2016, the future minimum lease payments under operating leases are as follows:

	December 31,	
	2015	2016
	RMB	RMB
Within one year	13,737	14,917
Between one and two years	13,265	14,228
Between two and three years	13,199	13,966
Between three and four years	13,091	13,217
Between four and five years	12,430	12,980
Thereafter	284,300	275,570
	350,022	344,878

Capital commitments

As of December 31, 2015 and 2016, capital commitments are as follows:

	December 31,	
	2015	2016
	RMB	RMB
Authorized and contracted for (i)	113,017	116,379

Authorized but not contracted for	47,043	31,720
	160,060	148,099

These capital commitments relate to oil and gas exploration and development, refining and petrochemical production capacity expansion projects, the construction of service stations and oil depots and investment commitments.

Note:

(i) The investment commitments for the year ended December 31, 2015 and 2016 of the Group were RMB 4,089 and RMB 4,173, respectively.

Commitments to joint ventures

Pursuant to certain of the joint venture agreements entered into by the Group, the Group is obliged to purchase products from the joint ventures based on market prices.

Exploration and production licenses

Exploration licenses for exploration activities in the PRC are registered with the Ministry of Land and Resources. The maximum term of the Group's exploration licenses is 7 years, and may be renewed twice within 30 days prior to expiration of the original term with each renewal being for a two-year term. The Group is obligated to make progressive annual exploration investment relating to the exploration blocks in respect of which the license is issued. The Ministry of Land and Resources also issues production licenses to the Group on the basis of the reserve reports approved by relevant authorities. The maximum term of a full production license is 30 years unless a special dispensation is given by the State Council. The maximum term of production licenses issued to the Group is 80 years as a special dispensation was given to the Group by the State Council. The Group's production license is renewable upon application by the Group 30 days prior to expiration.

The Group is required to make payments of exploration license fees and production right usage fees to the Ministry of Land and Resources annually which are expensed. Payments incurred were approximately RMB 408, RMB 372 and RMB 333 for the years ended December 31, 2014, 2015 and 2016, respectively.

Estimated future annual payments are as follows:

	December 31,	
	2015	2016
	RMB	RMB
Within one year	283	263
Between one and two years	125	123
Between two and three years	32	25
Between three and four years	22	24
Between four and five years	21	25
Thereafter	834	867
	1,317	1,327

Contingent liabilities

As of December 31, 2015 and 2016, guarantees by the group in respect of facilities granted to the parties below are as follows:

	December 31,	
	2015	2016
	RMB	RMB
Joint ventures	703	658
Associates (ii)		11,545

Others	6,010	10,669
	6,713	22,872

Management monitors the conditions that are subject to the guarantees to identify whether it is probable that a loss has occurred, and recognizes any such losses under guarantees when those losses are estimable. As of December 31, 2015 and 2016, it was not probable that the Group will be required to make payments under the guarantees. Thus no liability has been accrued for a loss related to the Group's obligation under these guarantee arrangements.

Note:

(ii) The Group provided a guarantee in respect to standby credit facilities granted to Zhongtian Synergetic Energy by banks amount to RMB 17,050. As at December 31, 2016, the amount withdrawn by Zhongtian Synergetic Energy and guaranteed by the Group was RMB 11,545.

Environmental contingencies

Under existing legislation, management believes that there are no probable liabilities that will have a material adverse effect on the financial position or operating results of the Group. The PRC government, however, has moved, and may move further towards more rigorous enforcement of applicable laws, and towards the adoption of more stringent environmental standards. Environmental liabilities are subject to considerable uncertainties which affect management's ability to estimate the ultimate cost of remediation efforts. These uncertainties include i) the exact nature and extent of the contamination at various sites including, but not limited to refineries, oil fields, service stations, terminals and land development areas, whether operating, closed or sold, ii) the extent of required cleanup efforts, iii) varying costs of alternative remediation strategies, iv) changes in environmental remediation requirements, and v) the identification of new remediation sites. The amount of such future cost is indeterminable due to such factors as the unknown magnitude of possible contamination and the unknown timing and extent of the corrective actions that may be required. Accordingly, the outcome of environmental liabilities under proposed or future environmental legislation cannot reasonably be estimated at present, and could be material. The Group paid normal routine pollutant discharge fees of approximately RMB 5,352, RMB 5,813 and RMB 6,358 in the consolidated financial statements for the years ended December 31, 2014, 2015 and 2016, respectively.

Legal contingencies

The Group is a defendant in certain lawsuits as well as the named party in other proceedings arising in the ordinary course of business. Management has assessed the likelihood of an unfavourable outcome of such contingencies, lawsuits or other proceedings and believes that any resulting liabilities will not have a material adverse effect on the financial position, operating results or cash flows of the Group.

30. RELATED PARTY TRANSACTIONS

Parties are considered to be related to the Group if the Group has the ability, directly or indirectly, to control or jointly control the party or exercise significant influence over the party in making financial and operating decisions, or vice versa, or where the Group and the party are subject to control or common control. Related parties may be individuals (being members of key management personnel, significant shareholders and/ or their close family members) or other entities and include entities which are under the significant influence of related parties of the Group where those parties are individuals, and post-employment benefit plans which are for the benefit of employees of the Group or of any entity that is a related party of the Group.

(a) Transactions with Sinopec Group Company and fellow subsidiaries, associates and joint ventures

The Group is part of a larger group of companies under Sinopec Group Company, which is controlled by the PRC government, and has significant transactions and relationships with Sinopec Group Company and fellow subsidiaries. Because of these relationships, it is possible that the terms of these transactions are not the same as those that would result from transactions among wholly unrelated parties.

The principal related party transactions with Sinopec Group Company and fellow subsidiaries, associates and joint ventures, which were carried out in the ordinary course of business are as follows:

		Years ended December 31,		
	Note	2014	2015	2016
		RMB	RMB	RMB
Sales of goods	(i)	303,972	211,197	194,179
Purchases	(ii)	133,990	92,627	118,242
Transportation and storage	(iii)	1,606	1,299	1,333
Exploration and development services	(iv)	49,399	37,444	27,201
Production related services	(v)	10,290	10,880	10,816
Ancillary and social services	(vi)	6,753	6,754	6,584
Operating lease charges for land	(vii)	10,531	10,618	10,474
Operating lease charges for buildings	(vii)	497	462	449
Other operating lease charges	(vii)	274	302	456
Agency commission income	(viii)	132	116	129
Interest income	(ix)	135	207	209
Interest expense	(x)	1,421	1,194	996
Net deposits withdrawn from/(placed with) related parties	(ix)	2,319	(14,082)	(21,770)
Net loans obtained from/(repaid to) related parties	(xi)	53,690	(57,881)	(24,877)

The amounts set out in the table above in respect of each of the years in the three-year period ended December 31, 2016 represent the relevant costs and income as determined by the corresponding contracts with the related parties.

There was no guarantee given to banks by the Group in respect of banking facilities to related parties as of December 31, 2015 and 2016, except for the guarantees disclosed in Note 29.

The directors of the Company are of the opinion that the above transactions with related parties were conducted in the ordinary course of business and on normal commercial terms or in accordance with the agreements governing such transactions, and this has been confirmed by the independent directors.

Notes:

(i)

Sales of goods represent the sale of crude oil, intermediate petrochemical products, petroleum products and ancillary materials.

(ii) Purchases represent the purchase of materials and utility supplies directly related to the Group's operations such as the procurement of raw and ancillary materials and related services, supply of water, electricity and gas.

(iii) Transportation and storage represent the cost for the use of railway, road and marine transportation services, pipelines, loading, unloading and storage facilities.

(iv) Exploration and development services comprise direct costs incurred in the exploration and development such as geophysical, drilling, well testing and well measurement services.

(v) Production related services represent ancillary services rendered in relation to the Group's operations such as equipment repair and general maintenance, insurance premium, technical research, communications, firefighting, security, product quality testing and analysis, information technology, design and engineering, construction of oilfield ground facilities, refineries and chemical plants, manufacture of replacement parts and machinery, installation, project management and environmental protection.

(vi) Ancillary and social services represent expenditures for social welfare and support services such as educational facilities, media communication services, sanitation, accommodation, canteens, property maintenance and management services.

(vii) Operating lease charges represent the rental paid to Sinopec Group Company for operating leases in respect of land, buildings and equipment.

(viii) Agency commission income represents commission earned for acting as an agent in respect of sales of products and purchase of materials for certain entities owned by Sinopec Group Company.

(ix) Interest income represents interest received from deposits placed with Sinopec Finance Company Limited and Sinopec Century Bright Capital Investment Limited, finance companies controlled by Sinopec Group Company. The applicable interest rate is determined in accordance with the prevailing saving deposit rate. The balance of deposits as of December 31, 2015 and 2016 were RMB 18,303 and RMB 40,073, respectively.

(x) Interest expense represents interest charges on the loans and advances obtained from Sinopec Group Company and fellow subsidiaries.

(xi) The Group obtained or repaid loans from or to Sinopec Group Company and fellow subsidiaries.

In connection with the Reorganization, the Company and Sinopec Group Company entered into a number of agreements under which 1) Sinopec Group Company will provide goods and products and a range of ancillary, social and supporting services to the Group and 2) the Group will sell certain goods to Sinopec Group Company. These agreements impacted the operating results of the Group for the year ended December 31, 2016. The terms of these agreements are summarized as follows:

- The Company has entered into a non-exclusive "Agreement for Mutual Provision of Products and Ancillary Services" ("Mutual Provision Agreement") with Sinopec Group Company effective from January 1, 2000 in which Sinopec Group Company has agreed to provide the Group with certain ancillary production services, construction services, information advisory services, supply services and other services and products. While each of Sinopec Group Company and the Company is permitted to terminate the Mutual Provision Agreement upon giving at least six months notice, Sinopec Group Company has agreed not to terminate the agreement if the Group is unable to obtain comparable services from a third party. The pricing policy for these services and products provided by Sinopec Group Company to the Group is as follows:

(1) the government-prescribed price;

(2) where there is no government-prescribed price, the government-guidance price;

(3) where there is neither a government-prescribed price nor a government-guidance price, the market price; or

(4) where none of the above is applicable, the price to be agreed between the parties, which shall be based on a reasonable cost incurred in providing such services plus a profit margin not exceeding 6%.

The Company has entered into a non-exclusive “Agreement for Provision of Cultural and Educational, Health Care and Community Services” with Sinopec Group Company effective from January 1, 2000 in which Sinopec Group Company has agreed to provide the Group with certain cultural, educational, health care and community services on the same pricing terms and termination conditions as described in the above Mutual Provision Agreement.

- The Company has entered into a series of lease agreements with Sinopec Group Company to lease certain lands and buildings effective on January 1, 2000. The lease term is 40 or 50 years for lands and 20 years for buildings, respectively. The Company and Sinopec Group Company can renegotiate the rental amount every three years for land. The Company and Sinopec Group Company can renegotiate the rental amount for buildings every year. However such amount cannot exceed the market price as determined by an independent third party.

- The Company has entered into agreements with Sinopec Group Company effective from January 1, 2000 under which the Group has been granted the right to use certain trademarks, patents, technology and computer software developed by Sinopec Group Company.

- The Company has entered into a service stations franchise agreement with Sinopec Group Company effective from January 1, 2000 under which its service stations and retail stores would exclusively sell the refined products supplied by the Group.

- Pursuant to the Equity Transfer Agreement relating to the Transfer of 100% Equity Interest of Sinopec Beijing Jingtian Engineering and Construction Co., Ltd. (Jingtian Co.) entered into by the Company and Sinopec Baichuan Economic and Trading Company (Baichuan Co.) on August 26, 2015, the Company transferred 100% equity interest of Jingtian Co. to Baichuan Co. in December 2015, which was directly and wholly owned by Sinopec Group Company. The preliminary consideration of this transaction was RMB 1,869, which was based on the fair value of Jingtian Co.'s net assets as of March 31, 2015, adjusted by the subsequent changes to Jingtian Co.'s net assets between March 31, 2015 and December 31, 2015 according to the audited financial statements of Jingtian Co. as of each date.

- Pursuant to the resolutions passed at the Directors’ meeting held on October 31, 2014, the Group acquired the equity interests of YASREF from Sinopec Group Company. The acquisition has been completed in 2014 (Note 19).

- Pursuant to the Share Repurchase Agreement and Disposal Agreement by the Company and Sinopec Yizheng Chemical Fibre Company Limited (Yizheng Chemical Fibre Co., Ltd.) on September 12, 2014, Yizheng Chemical Fibre Co., Ltd repurchased and cancelled the 40.25% of its equity interests held by the Company in exchange for the transfer of its outgoing business to the Company and issued shares to Sinopec Group Company for the acquisition of 100% equity Interest of Sinopec Oilfield Service Corporation (a wholly-owned subsidiary of the Sinopec Group Company). These transactions were completed in December 2014.

Amounts due from/to Sinopec Group Company and fellow subsidiaries, associates and joint ventures included in the following accounts captions are summarized as follows:

	December 31,	
	2015	2016
	RMB	RMB
Trade accounts receivable	22,393	10,978
Prepaid expenses and other current assets	9,084	13,430
Long-term prepayments and other assets	17,760	20,385
Total	49,237	44,793
Trade accounts payable	13,195	19,419
Accrued expenses and other payables	20,457	21,590
Other long-term liabilities	8,226	9,998
Short-term loans and current portion of long-term loans from Sinopec Group Company and fellow subsidiaries	43,929	18,580
Long-term loans excluding current portion from Sinopec Group Company and fellow subsidiaries	44,300	44,772

Total	130,107	114,359

Amounts due from/to Sinopec Group Company and fellow subsidiaries, associates and joint ventures, other than short-term loans and long-term loans, bear no interest, are unsecured and are repayable in accordance with normal commercial terms. The terms and conditions associated with short-term loans and long-term loans payable to Sinopec Group Company and fellow subsidiaries are set out in Note 24.

The long-term borrowings mainly include an interest-free loan with a maturity period of 20 years amounting to RMB 35,560 from the Sinopec Group Company (a state-owned enterprise) through the Sinopec Finance. This borrowing is a special arrangement to reduce financing costs and improve liquidity of the Company during its initial global offering in 2000.

As of and for the years ended December 31, 2015 and 2016, no individually significant impairment losses for bad and doubtful debts were recognized in respect of amounts due from Sinopec Group Company and fellow subsidiaries, associates and joint ventures.

(b) Key management personnel emoluments

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Group, directly or indirectly, including directors and supervisors of the Group. The key management personnel compensation is as follows:

	Years ended December 31,		
	2014	2015	2016
	RMB'000	RMB'000	RMB'000
Short-term employee benefits	8,009	5,225	5,648
Retirement scheme contributions	501	510	499
	8,510	5,735	6,147

(c) Contributions to defined contribution retirement plans

The Group participates in various defined contribution retirement plans organized by municipal and provincial governments for its staff. The details of the Group's employee benefits plan are disclosed in Note 31. As of December 31, 2015 and 2016, the accrual for the contribution to post-employment benefit plans was not material.

(d) Transactions with other state-controlled entities in the PRC

The Group is a state-controlled energy and chemical enterprise and operates in an economic regime currently dominated by entities directly or indirectly controlled by the PRC government through its government authorities, agencies, affiliations and other organizations (collectively referred as "state-controlled entities").

Apart from transactions with Sinopec Group Company and fellow subsidiaries, the Group has transactions with other state-controlled entities, include but not limited to the following:

- sales and purchases of goods and ancillary materials;
- rendering and receiving services;
- lease of assets;
- depositing and borrowing money; and
- use of public utilities.

These transactions are conducted in the ordinary course of the Group's business on terms comparable to those with other entities that are not state-controlled.

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31. EMPLOYEE BENEFITS PLAN

As stipulated by the regulations of the PRC, the Group participates in various defined contribution retirement plans organized by municipal and provincial governments for its staff. The Group is required to make contributions to the retirement plans at rates ranging from 17.0% to 24.0% of the salaries, bonuses and certain allowances of its staff. In addition, the Group provides a supplementary retirement plan for its staff at rates not exceeding 5% of the salaries. The Group has no other material obligation for the payment of pension benefits associated with these plans beyond the annual contributions described above. The Group's contributions for the years ended December 31, 2014, 2015 and 2016 were RMB 7,660, RMB 7,878 and RMB 8,385, respectively.

32. SEGMENT REPORTING

Segment information is presented in respect of the Group's business segments. The format is based on the Group's management and internal reporting structure.

In a manner consistent with the way in which information is reported internally to the Group's chief operating decision maker for the purposes of resource allocation and performance assessment, the Group has identified the following five reportable segments. No operating segments have been aggregated to form the following reportable segments.

(i) Exploration and production, which explores and develops oil fields, produces crude oil and natural gas and sells such products to the refining segment of the Group and external customers.

(ii) Refining, which processes and purifies crude oil, that is sourced from the exploration and production segment of the Group and external suppliers, and manufactures and sells petroleum products to the chemicals and marketing and distribution segments of the Group and external customers.

(iii) Marketing and distribution, which owns and operates oil depots and service stations in the PRC, and distributes and sells refined petroleum products (mainly gasoline and diesel) in the PRC through wholesale and retail sales networks.

(iv) Chemicals, which manufactures and sells petrochemical products, derivative petrochemical products and other chemical products mainly to external customers.

(v) Corporate and others, which largely comprise the trading activities of the import and export companies of the Group and research and development undertaken by other subsidiaries.

The segments were determined primarily because the Group manages its exploration and production, refining, marketing and distribution, chemicals, and corporate and others businesses separately. The reportable segments are each managed separately because they manufacture and/or distribute distinct products with different production processes and due to their distinct operating and gross margin characteristics.

(1) Information of reportable segmental revenues, profits or losses, assets and liabilities

The Group's chief operating decision maker evaluates the performance and allocates resources to its operating segments on an operating income basis, without considering the effects of finance costs or investment income. Inter-segment transfer pricing is based on the market price or cost plus an appropriate margin, as specified by the Group's policy.

Assets and liabilities dedicated to a particular segment's operations are included in that segment's total assets and liabilities. Segment assets include all tangible and intangible assets, except for interest in associates and joint ventures, investments, deferred tax assets, cash and cash equivalents, time deposits with financial institutions and other unallocated assets. Segment liabilities exclude short-term, income tax payable, long-term debts, loans from Sinopec Group Company and fellow subsidiaries, deferred tax liabilities and other unallocated liabilities.

Information on the Group's reportable segments is as follows:

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Sales of goods			
Exploration and production			
External sales	69,550	57,740	47,443
Inter-segment sales	141,544	71,019	58,954
	211,094	128,759	106,397
Refining			
External sales	175,534	120,650	102,983
Inter-segment sales	1,092,244	800,962	747,317
	1,267,778	921,612	850,300
Marketing and distribution			
External sales	1,458,390	1,086,098	1,027,373
Inter-segment sales	5,446	3,056	3,480
	1,463,836	1,089,154	1,030,853
Chemicals			
External sales	358,617	276,640	284,289
Inter-segment sales	63,745	43,814	38,614
	422,362	320,454	322,903
Corporate and others			
External sales	721,174	436,749	418,102
Inter-segment sales	587,663	345,454	320,367
	1,308,837	782,203	738,469
Elimination of inter-segment sales	(1,890,642)	(1,264,305)	(1,168,732)
Sales of goods	2,783,265	1,977,877	1,880,190
Other operating revenues			
Exploration and production	16,503	9,894	9,542
Refining	5,317	5,004	5,486
Marketing and distribution	12,770	17,512	22,004
Chemicals	8,312	8,417	12,211
Corporate and others	1,399	1,671	1,478
Other operating revenues	44,301	42,498	50,721
Sales of goods and other operating revenues	2,827,566	2,020,375	1,930,911

	Years ended December 31,		
	2014	2015	2016
Result	RMB	RMB	RMB
Operating income/(loss)			
By segment			
- Exploration and production	47,057	(17,418)	(36,641)
- Refining	(1,954)	20,959	56,265
- Marketing and distribution	29,449	28,855	32,153
- Chemicals	(2,229)	19,476	20,623
- Corporate and others	(1,063)	384	3,212
- Elimination	2,179	4,566	1,581
Total segment operating income	73,439	56,822	77,193
Income/(loss) from associates and joint ventures			
- Exploration and production	1,117	633	(1,203)
- Refining	(871)	725	1,075
- Marketing and distribution	963	1,379	2,362
- Chemicals	838	3,343	5,696
- Corporate and others	1,818	2,282	1,376
Aggregate income from associates and joint ventures	3,865	8,362	9,306
Investment income			
- Exploration and production	1	835	24
- Refining	17	(8)	(4)
- Marketing and distribution	71	70	90
- Chemicals	296	41	119
- Corporate and others	2,319	350	34
- Elimination		(822)	
Aggregate investment income	2,704	466	263
Net finance costs	(14,190)	(9,239)	(6,611)
Earnings before income tax	65,818	56,411	80,151

	December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Assets			
Segment assets			
- Exploration and production	453,060	447,307	402,476
- Refining	297,884	264,573	260,903
- Marketing and distribution	276,298	283,416	292,328
- Chemicals	163,813	151,646	144,371
- Corporate and others	147,015	108,921	95,263
Total segment assets	1,338,070	1,255,863	1,195,341
Interest in associates and joint ventures	81,901	84,293	116,812
Available-for-sale financial assets	1,487	10,964	11,408
Deferred tax assets	6,979	7,469	7,214
Cash and cash equivalents and time deposits with financial institutions	11,271	69,666	142,497
Other unallocated assets	15,886	19,013	25,337
Total assets	1,455,594	1,447,268	1,498,609
Liabilities			
Segment liabilities			
- Exploration and production	100,552	96,773	95,944
- Refining	67,327	58,578	82,170
- Marketing and distribution	118,493	118,897	133,303
- Chemicals	27,726	27,243	32,072
- Corporate and others	138,930	104,194	97,080
Total segment liabilities	453,028	405,685	440,569
Short-term debts	75,183	41,517	56,239
Income tax payable	1,091	1,048	6,051
Long-term debts	107,787	95,446	72,674
Loans from Sinopec Group Company and fellow subsidiaries	146,110	88,229	63,352
Deferred tax liabilities	7,820	8,259	7,661
Other unallocated liabilities	14,972	18,923	20,828
Total liabilities	805,991	659,107	667,374

Segment capital expenditure is the total cost incurred during the year to acquire segment assets that are expected to be used for more than one year.

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Capital expenditure			
Exploration and production	80,196	54,710	32,187
Refining	27,957	15,132	14,347
Marketing and distribution	26,989	22,115	18,493
Chemicals	15,944	17,634	8,849
Corporate and others	3,648	2,821	2,580
	154,734	112,412	76,456
Depreciation, depletion and amortization			
Exploration and production	48,902	52,155	61,929
Refining	15,015	16,557	17,209
Marketing and distribution	12,491	14,075	14,540
Chemicals	12,229	12,088	12,654
Corporate and others	1,559	1,585	2,093
	90,196	96,460	108,425
Impairment losses on long-lived assets			
Exploration and production	2,436	4,864	11,605
Refining	29	9	1,655
Marketing and distribution	40	19	267
Chemicals	1,106	142	2,898
Corporate and others	8	112	
	3,619	5,146	16,425

(2) Geographical information

The following tables set out information about the geographical information of the Group's external sales and the Group's non-current assets, excluding financial instruments and deferred tax assets. In presenting information on the basis of geographical segments, segment revenue is based on the geographical location of customers, and segment assets are based on the geographical location of the assets.

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
External sales			
Mainland China	2,064,427	1,580,856	1,488,117
Others	763,139	439,519	442,794
	2,827,566	2,020,375	1,930,911

	December 31,		
	2014	2015	2016
	RMB	RMB	RMB
Non-current assets			
Mainland China	1,005,713	1,029,318	1,000,209
Others	64,589	56,081	45,887
	1,070,302	1,085,399	1,046,096

33. PRINCIPAL SUBSIDIARIES

As of December 31, 2016, the following list contains the particulars of subsidiaries which principally affected the results, assets and liabilities of the Group.

Name of Company	Particulars of issued capital	Interests held by the Company %	Interests held by non-controlling interests %	Principal activities
Sinopec International Petroleum Exploration and Production Limited ("SIPL")	RMB 8,000	100.00	—	Investment in exploration, production and sale of petroleum and natural gas
Sinopec Great Wall Energy & Chemical Company Limited	RMB 20,739	100.00	—	Coal chemical industry investment management, production and sale of coal chemical products
Sinopec Yangzi Petrochemical Company Limited	RMB 13,203	100.00	—	Manufacturing of intermediate petrochemical products and petroleum products
Sinopec Pipeline Storage & Transportation Company Limited	RMB 12,000	100.00	—	Pipeline storage and transportation of crude oil
Sinopec Yizheng Chemical Fibre Limited Liability Company	RMB 4,000	100.00	—	Production and sale of polyester chips and polyester fibres
Sinopec Lubricant Company Limited	RMB 3,374	100.00	—	Production and sale of refined petroleum products, lubricant base oil, and petrochemical materials
Sinopec Qingdao Petrochemical Company Limited	RMB 1,595	100.00	—	Manufacturing of intermediate petrochemical products and petroleum products
Sinopec Chemical Sales Company Limited	RMB 1,000	100.00	—	Marketing and distribution of petrochemical products
China International United Petroleum and Chemical Company Limited	RMB 3,000	100.00	—	Trading of crude oil and petrochemical products
Sinopec Overseas Investment Holding Limited ("SOIH")	USD 1,638	100.00	—	Investment holding
Sinopec Catalyst Company Limited	RMB 1,500	100.00	—	Production and sale of catalyst products
China Petrochemical International Company Limited	RMB 1,400	100.00	—	Trading of petrochemical products
Sinopec Beihai Refining and Chemical Limited Liability Company	RMB 5,294	98.98	1.02	Import and processing of crude oil, production, storage and sale of petroleum products and petrochemical products
Sinopec Qingdao Refining and Chemical Company Limited	RMB 5,000	85.00	15.00	Manufacturing of intermediate petrochemical products and petroleum products
Sinopec Zhanjiang Dongxing Petrochemical Company Limited	RMB 4,397	75.00	25.00	Manufacturing of intermediate petrochemical products and petroleum products
	RMB 3,986	75.00	25.00	

Sinopec Hainan Refining and Chemical Company Limited				Manufacturing of intermediate petrochemical products and petroleum products
Sinopec Marketing Company Limited ("Marketing Company") (i)	RMB 28,403	70.42	29.58	Marketing and distribution of refined petroleum products
Sinopec–SK(Wuhan) Petrochemical Company Limited ("Zhonghan Wuhan")	RMB 6,270	65.00	35.00	Production, sale, research and development of ethylene and downstream byproducts
Sinopec Kantons Holdings Limited ("Sinopec Kantons")	HKD 248	60.34	39.66	Trading of crude oil and petroleum products
Gaoqiao Petrochemical Company Limited (Note 1)	RMB 10,000	55.00	45.00	Manufacturing of intermediate petrochemical products and petroleum products
Sinopec Shanghai Petrochemical Company Limited ("Shanghai Petrochemical")	RMB 10,800	50.56	49.44	Manufacturing of synthetic fibres, resin and plastics, intermediate petrochemical products and petroleum products
Fujian Petrochemical Company Limited ("Fujian Petrochemical") (ii)	RMB 5,745	50.00	50.00	Manufacturing of plastics, intermediate petrochemical products and petroleum products

Except for Sinopec Kantons and SOIH, which are incorporated in Bermuda and Hong Kong respectively, all of the above principal subsidiaries are incorporated and operate their business principally in the PRC. All of the above principal subsidiaries are limited companies.

Note:

(i) Pursuant to the resolution of the Company’s Meeting of Board of Directors held on February19, 2014, the Company's business under its marketing and distribution segment of the Group was injected to Marketing Company, a subsidiary of the Group on April 1, 2014.

On September 12, 2014, Marketing Company entered into the "Capital Injection Agreement relating to Marketing Company" with a number of domestic and foreign investors, pursuant to which the investors shall subscribe for equity interest in Marketing Company in cash upon the relevant approvals for this capital injection being obtained, an aggregate capital contribution of RMB 105,044 was made to the Marketing Company by 25 investors, representing 29.58% equity interest in the Marketing Company on March 6, 2015. The difference between the contributions from and the net assets acquired by investors has been credited to capital reserve in amount of RMB 56,224 and to other comprehensive income in amount of RMB 446 of the equity attributable to the shareholders of the Company, respectively.

(ii) The Group consolidated the financial statements of the entity because it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Summarized financial information on subsidiaries with material non-controlling interests

Set out below are the summarized financial information which the amount before inter-company eliminations for each subsidiary that has non-controlling interests that are material to the Group.

Summarized consolidated balance sheet

	Marketing Company		SIPL		Shanghai Petrochemical		Fujian Petrochemical		Sinopec Kantons		Zhonghan Wuhan	
	At December 31,		At December 31,		At December 31,		At December 31,		At December 31,		At December 31,	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Current assets	102,948	121,260	20,231	18,116	8,144	14,876	140	926	1,732	1,352	1,386	1,48
Current liabilities	(156,028)	(168,366)	(5,468)	(824)	(7,726)	(8,942)	(73)	(812)	(3,488)	(2,891)	(9,885)	(7,52
Net current (liabilities)/assets	(53,080)	(47,106)	14,763	17,292	418	5,934	67	114	(1,756)	(1,539)	(8,499)	(6,03
Non–current assets	240,312	246,514	40,075	40,067	19,676	19,070	5,487	7,845	13,025	13,228	15,815	14,6
Non–current liabilities	(1,628)	(1,460)	(34,320)	(39,322)	–	–	(831)	(721)	(3,384)	(3,101)	–	–
Net non–current assets	238,684	245,054	5,755	745	19,676	19,070	4,656	7,124	9,641	10,127	15,815	14,6
Net assets	185,604	197,948	20,518	18,037	20,094	25,004	4,723	7,238	7,885	8,588	7,316	8,65
Attributable to owners of the Company	126,100	134,393	4,331	2,784	10,009	12,500	2,361	3,619	4,738	5,162	4,755	5,62
	59,504	63,555	16,187	15,253	10,085	12,504	2,362	3,619	3,147	3,426	2,561	3,02

Attributable to
non–controlling
interests

Summarized consolidated statement of comprehensive income

Year ended December 31,	Marketing Company (i)			SIPL			Shanghai Petrochemical			Fujian Petroche		
	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2 R
Operating revenues	1,472,232	1,103,934	1,050,294	9,038	6,557	4,016	102,126	80,748	77,843	7,322	5,532	
Net income/ (loss) for the year	22,914	23,684	26,461	3,046	(222)	(4,604)	(676)	3,310	5,981	(745)	1,456	
Total Comprehensive income/ (loss)	22,934	24,391	27,385	(106)	(4,257)	(2,481)	(676)	3,310	6,000	(750)	1,456	
Comprehensive income/(loss) attributable to non-controlling interests	930	7,755	9,028	18	(1,218)	(3,279)	(326)	1,655	2,964	(375)	728	
Dividends paid to non-controlling interests	–	7,356	4,932	–	–	–	271	10	563	–	–	

Summarized statement of cash flows

Year ended December 31,	Marketing Company			SIPL			Shanghai Petrochemical			Fujian Petrochemical			Sinopec Ka	
	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	2014 RMB	2015 RMB	2016 RMB	2014 RMB	201 RM
Net cash generated from/(used in) operating activities	44,337	33,196	50,840	5,383	4,059	2,576	3,662	4,933	7,182	197	(179)	617	880	1,
Net cash (used in)/generated from investing activities	(46,140)	21,180	(31,573)	(8,282)	(4,052)	2,729	(910)	(439)	(190)	(303)	76	54	(1,120)	(5
Net cash generated from/(used in) financing activities	1,584	(42,777)	(20,424)	1,740	637	(4,414)	(2,606)	(3,696)	(2,637)	264	(176)	(55)	(414)	(4
Net (decrease)/ increase in cash and cash equivalents	(219)	11,599	(1,157)	(1,159)	644	891	146	798	4,355	158	(279)	616	(654)	23
Cash and cash	2,878	2,682	14,914	2,468	1,327	2,042	133	279	1,077	222	380	101	1,279	63

equivalents as of January 1														
Effect of foreign currency exchange rate changes	23	633	616	18	71	112	–	–	9	–	–	–	5	18
Cash and cash equivalents as of December 31	2,682	14,914	14,373	1,327	2,042	3,045	279	1,077	5,441	380	101	717	630	88

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34. FINANCIAL RISK MANAGEMENT AND FAIR VALUES

Overview

Financial assets of the Group include cash and cash equivalents, time deposits with financial institutions, investments, trade accounts receivable, bills receivable, amounts due from Sinopec Group Company and fellow subsidiaries, amounts due from associates and joint ventures, available-for-sale financial assets, derivative financial instruments and other receivables. Financial liabilities of the Group include short-term and long-term debts, loans from Sinopec Group Company and fellow subsidiaries, trade accounts payable, bills payable, amounts due to Sinopec Group Company and fellow subsidiaries, derivative financial instruments and other payables.

The Group has exposure to the following risks from its use of financial instruments:

- credit risk;
- liquidity risk;
- market risk;

The Board of Directors has overall responsibility for the establishment, oversight of the Group's risk management framework, and developing and monitoring the Group's risk management policies.

The Group's risk management policies are established to identify and analyze the risks faced by the Group, and set appropriate risk limits and controls to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group, through its training and management controls and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations. Internal audit department undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the Group's audit committee.

Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group's deposits placed with financial institutions and receivables from customers. To limit exposure to credit risk relating to deposits, the Group primarily places cash deposits only with large financial institutions in the PRC with acceptable credit ratings. The majority of the Group's trade accounts receivable relate to sales of petroleum and chemical products to related parties and third parties operating in the petroleum and chemical industries. No single customer accounted for greater than 10% of total accounts receivable as of December 31, 2016, except the amounts due from Sinopec Group Company and fellow subsidiaries. Management performs ongoing credit evaluations of the Group's customers' financial condition and generally does not require collateral on trade accounts receivable. The Group maintains an impairment loss for doubtful accounts and actual losses have been within management's expectations.

The carrying amounts of cash and cash equivalents, time deposits with financial institutions, trade accounts and bills receivables, derivative financial instruments and other receivables, represent the Group's maximum exposure to credit risk in relation to financial assets.

Liquidity risk

Liquidity risk is the risk that the Group will not be able to meet its financial obligations as they fall due. The Group's approach in managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed capital conditions, without incurring unacceptable losses or risking damage to the Group's reputation. Management prepares monthly cash flow budget to ensure that the Group will always have sufficient liquidity to meet its financial obligations as they fall due. The Group arranges and negotiates financing with financial institutions and maintains a certain level of standby credit facilities to reduce the Group's liquidity risk.

As of December 31, 2015 and 2016, the Group has standby credit facilities with several PRC financial institutions which provide borrowings up to RMB 297,997 and RMB 256,375 on an unsecured basis, at a weighted average interest rate of 2.50% and 3.57% per annum, respectively. As of December 31, 2015 and 2016, the Group's outstanding borrowings under these facilities were RMB 32,991 and RMB 36,933 and were included in debts, respectively.

The following table sets out the remaining contractual maturities at the balance sheet date of the Group's financial liabilities, which are based on contractual undiscounted cash flows (including interest payments computed using contractual rates or, if floating, based on prevailing rates current at the balance sheet date) and the earliest date the Group would be required to repay:

	December 31, 2015					
	Carrying amount RMB	Total contractual undiscounted cash flow RMB	Within 1 year or on demand RMB	More than 1 year but less than 2 years RMB	More than 2 years but less than 5 years RMB	More than 5 years RMB
Short-term debts	71,517	72,476	72,476			
Long-term debts	95,446	110,678	3,747	41,176	41,637	24,118
Loans from Sinopec Group Company and fellow subsidiaries	88,229	89,258	44,439	464	8,795	35,560
Trade accounts payable	130,558	130,558	130,558			
Bills payable	3,566	3,566	3,566			
Accrued expenses and other payables	88,082	88,082	88,082			
	477,398	494,618	342,868	41,640	50,432	59,678

	December 31, 2016					
	Carrying amount RMB	Total contractual undiscounted cash flow RMB	Within 1 year or on demand RMB	More than 1 year but less than 2 years RMB	More than 2 years but less than 5 years RMB	More than 5 years RMB
Short-term debts	56,239	57,515	57,515			
Long-term debts	72,674	85,021	2,672	27,277	30,535	24,537
Loans from Sinopec Group Company and fellow subsidiaries	63,352	63,678	18,790	2,092	42,796	
Trade accounts payable	174,301	174,301	174,301			
Bills payable	5,828	5,828	5,828			
Accrued expenses and other payables	81,781	81,781	81,781			
	454,175	468,124	340,887	29,369	73,331	24,537

Management believes that the Group's current cash on hand, expected cash flows from operations and available standby credit facilities from financial institutions will be sufficient to meet the Group's short-term and long-term capital requirements.

Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates and interest rates. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return on risk.

Currency risk

Currency risk arises on financial instruments that are denominated in a currency other than the functional currency in which they are measured. The Group's currency risk exposure primarily relates to short-term and long-term debts and loans from Sinopec Group Company and fellow subsidiaries denominated in US Dollars, Euro, Singapore Dollars and Hong Kong Dollars. The Group enters into foreign exchange contracts to manage its currency risk exposure.

Included in short-term and long-term debts and loans from Sinopec Group Company and fellow subsidiaries of the Group are the following amounts denominated in a currency other than the functional currency of the entity to which they relate:

	December 31,	
Gross exposure arising from loans and borrowings	2015	2016
US Dollars	USD 1,181	USD 126
Euro	EUR 1,108	EUR 1
Singapore Dollars		SGD 4
Hong Kong Dollars	HKD 6	HKD 6

A 5 percent strengthening/weakening of RMB against the following currencies as of December 31, 2015 and 2016 would have decreased/increased net income of the Group by the amounts shown below. This analysis has been determined assuming that the change in foreign exchange rates had occurred at the balance sheet date and had been applied to the foreign currency balances to which the Group has significant exposure as stated above, and that all other variables, in particular interest rates, remain constant. The analysis is performed on the same basis for 2015.

	December 31,	
	2015	2016
US Dollars	288	33
Euro	295	
Singapore Dollars		1

Other than the amounts as disclosed above, the amounts of other financial assets and liabilities of the Group are substantially denominated in the functional currency of respective entity within the Group.

Interest rate risk

The Group’s interest rate risk exposure arises primarily from its short-term and long-term debts. Debts bearing interest at variable rates and at fixed rates expose the Group to cash flow interest rate risk and fair value interest rate risk respectively. The interest rates of short-term and long-term debts, and loans from Sinopec Group Company and fellow subsidiaries of the Group are disclosed in Note 24.

As of December 31, 2015, it is estimated that a general increase/decrease of 100 basis points in variable interest rates, with all other variables held constant, would decrease/increase the Group's net income by approximately RMB 91. As of December 31, 2016, it is estimated that a general increase/decrease of 100 basis points in variable interest rates, with all other variables held constant, would increase/decrease the Group's net income by approximately RMB 44. This sensitivity analysis has been determined assuming that the change of interest rates was applied to the Group’s debts outstanding at the balance sheet date with exposure to cash flow interest rate risk, which in part be eliminated by cash holdings on a variable interest rates basis. The analysis is performed on the same basis for 2015.

Commodity price risk

The Group engages in oil and gas operations and is exposed to commodity price risk related to price volatility of crude oil, refined oil products and chemical products. The fluctuations in prices of crude oil, refined oil products and chemical products could have significant impact on the Group. The Group uses derivative financial instruments, including commodity futures and swaps, to manage a portion of this risk. As of December, 31, 2015 and 2016, the

Group had certain commodity contracts of crude oil, refined oil product and chemical products designated as qualified cash flow hedges and economic hedges. The fair values of these derivative financial instruments as of December 31, 2015 and 2016 are set out in Notes 14 and 26.

As of December 31, 2015, it is estimated that a general increase/decrease of USD 10 per barrel in basic price of derivative financial instruments, with all other variables held constant, would impact the fair value of derivative financial instruments, which would decrease/increase the Group's net income and retain earnings by approximately RMB 1,951, and decrease/increase the Group's other reserves by approximately RMB 3,052. As of December 31, 2016, it is estimated that a general increase/decrease of USD 10 per barrel in basic price of derivative financial instruments, with all other variables held constant, would impact the fair value of derivative financial instruments, which would decrease/increase the Group's net income and retain earnings by approximately RMB 634 and decrease/increase the Group's other reserves by approximately RMB 4,007. This sensitivity analysis has been determined assuming that the change in prices had occurred at the balance sheet date and the change was applied to the Group's derivative financial instruments at that date with exposure to commodity price risk. The analysis is performed on the same basis for 2015.

Fair values

(i) Financial instruments carried at fair value

The following table presents the carrying value of financial instruments measured at fair value at the balance sheet date across the three levels of the fair value hierarchy defined in IFRS 7, Financial Instruments: Disclosures, with the fair value of each financial instrument categorized in its entirety based on the lowest level of input that is significant to that fair value measurement. The levels are defined as follows:

- Level 1 (highest level): fair values measured using quoted prices (unadjusted) in active markets for identical financial instruments.

- Level 2: fair values measured using quoted prices in active markets for similar financial instruments, or using valuation techniques in which all significant inputs are directly or indirectly based on observable market data.

- Level 3 (lowest level): fair values measured using valuation techniques in which any significant input is not based on observable market data.

	December 31, 2015			
	Level 1	Level 2	Level 3	Total
	RMB	RMB	RMB	RMB
Assets				
Available-for-sale financial assets:				
- Listed	261			261
Derivative financial instruments:				
- Derivative financial assets	4,235	3,640		7,875
	4,496	3,640		8,136
Liabilities				
Derivative financial instruments:				
- Derivative financial liabilities	305	2,445		2,750
	305	2,445		2,750

	December 31, 2016			
	Level 1	Level 2	Level 3	Total
	RMB	RMB	RMB	RMB
Assets				
Available-for-sale financial assets:				
- Listed	262			262
Derivative financial instruments:				
- Derivative financial assets	29	733		762

	291	733	1,024
Liabilities			
Derivative financial instruments:			
- Derivative financial liabilities	2,586	1,886	4,472
	2,586	1,886	4,472

During the years ended December 31, 2015 and 2016, there was no transfers between instruments in Level 1 and Level 2.

(ii) Fair values of financial instruments carried at other than fair value

The disclosures of the fair value estimates, and their methods and assumptions of the Group's financial instruments, are made to comply with the requirements of IFRS 7 and IAS 39 and should be read in conjunction with the Group's consolidated financial statements and related notes. The estimated fair value amounts have been determined by the Group using market information and valuation methodologies considered appropriate. However, considerable judgment is required to interpret market data to develop the estimates of fair value. Accordingly, the estimates presented herein are not necessarily indicative of the amounts the Group could realize in a current market exchange. The use of different market assumptions and/or estimation methodologies may have a material effect on the estimated fair value amounts.

The fair values of the Group's financial instruments carried at other than fair value (other than long-term indebtedness and investments in unquoted equity securities) approximate their carrying amounts due to the short-term maturity of these instruments. The fair values of long-term indebtedness are estimated by discounting future cash flows using current market interest rates offered to the Group that range between 1.08% to 4.90% and 1.06% to 4.90% for the years ended December 31, 2015 and 2016, respectively. The following table presents the carrying amount and fair value of the Group's long-term indebtedness other than loans from Sinopec Group Company and fellow subsidiaries as of December 31, 2015 and 2016:

	December 31,	
	2015	2016
	RMB	RMB
Carrying amount	105,927	110,969
Fair value	103,482	109,308

The Group has not developed an internal valuation model necessary to estimate the fair value of loans from Sinopec Group Company and fellow subsidiaries as it is not considered practicable to estimate their fair value because the cost of obtaining discount and borrowing rates for comparable borrowings would be excessive based on the Reorganization, the Group's existing capital structure and the terms of the borrowings.

Investments in unquoted equity securities are individually and in aggregate not material to the Group's financial condition or results of operations. There are no listed market prices for such interests in the PRC and, accordingly, a reasonable estimate of fair value could not be made without incurring excessive costs. The Group intends to hold these unquoted other investments in equity securities for long term purpose.

Except for the above items, the financial assets and liabilities of the Group are carried at amounts not materially different from their fair values as of December 31, 2015 and 2016.

35. ACCOUNTING ESTIMATES AND JUDGMENTS

The Group's financial condition and results of operations are sensitive to accounting methods, assumptions and estimates that underlie the preparation of the consolidated financial statements. Management bases the assumptions and estimates on historical experience and on various other assumptions that it believes to be reasonable and which form the basis for making judgments about matters that are not readily apparent from other sources. On an on-going basis, management evaluates its estimates. Actual results may differ from those estimates as facts, circumstances and conditions change.

The selection of critical accounting policies, the judgments and other uncertainties affecting application of such policies and the sensitivity of reported results to changes in conditions and assumptions are factors to be considered when reviewing the consolidated financial statements. The significant accounting policies are set forth in Note 2. Management believes the following critical accounting policies involve the most significant judgments and estimates used in the preparation of the consolidated financial statements.

Oil and gas properties and reserves

The accounting for the exploration and production's oil and gas activities is subject to accounting rules that are unique to the oil and gas industry. There are two methods to account for oil and gas business activities, the successful efforts method and the full cost method. The Group has elected to use the successful efforts method. The successful efforts method reflects the volatility that is inherent in exploring for mineral resources in that costs of unsuccessful exploratory efforts are charged to expense as they are incurred. These costs primarily include dry hole costs, seismic costs and other exploratory costs. Under the full cost method, these costs are capitalized and written-off or depreciated over time.

Engineering estimates of the Group's oil and gas reserves are inherently imprecise and represent only approximate amounts because of the subjective judgments involved in developing such information. There are authoritative guidelines regarding the engineering criteria that have to be met before estimated oil and gas reserves can be designated as "proved". Proved and proved developed reserves estimates are updated at least annually and take into account recent production and technical information about each field. In addition, as prices and cost levels change from year to year, the estimate of proved and proved developed reserves also changes. This change is considered a change in estimate for accounting purposes and is reflected on a prospective basis in related depreciation rates. Oil and gas reserves have a direct impact on the assessment of the recoverability of the carrying amounts of oil and gas properties reported in the financial statements. If proved reserves estimates are revised downwards, earnings could be affected by changes in depreciation expense or an immediate write-down of the property's carrying amount.

Future dismantlement costs for oil and gas properties are estimated with reference to engineering estimates after taking into consideration the anticipated method of dismantlement required in accordance with industry practices in similar geographic area, including estimation of economic life of oil and gas properties, technology and price level. The present values of these estimated future dismantlement costs are capitalized as oil and gas properties with equivalent amounts recognized as provision for dismantlement costs.

Despite the inherent imprecision in these engineering estimates, these estimates are used in determining depreciation expense, impairment loss and future dismantlement costs. Capitalized costs of proved oil and gas properties are amortized on a unit-of-production method based on volumes produced and reserves.

Impairment for long-lived assets

If circumstances indicate that the net book value of a long-lived asset may not be recoverable, the asset may be considered "impaired", and an impairment loss may be recognized in accordance with IAS 36 "Impairment of Assets". The carrying amounts of long-lived assets are reviewed periodically in order to assess whether the recoverable amounts have declined below the carrying amounts. These assets are tested for impairment whenever events or changes in circumstances indicate that their recorded carrying amounts may not be recoverable. When such a decline has occurred, the carrying amount is reduced to recoverable amount. For goodwill, the recoverable amount is estimated annually. The recoverable amount is the greater of the net selling price and the value in use. It is difficult to precisely estimate selling price because quoted market prices for the Group's assets or cash-generating units are not readily available. In determining the value in use, expected cash flows generated by the asset or the cash-generating unit are discounted to their present value, which requires significant judgment relating to level of sale volume, selling price and amount of operating costs. Management uses all readily available information in determining an amount that is a reasonable approximation of recoverable amount, including estimates based on reasonable and supportable assumptions and projections of sale volume, selling price and amount of operating costs.

Depreciation

Property, plant and equipment, other than oil and gas properties, are depreciated on a straight-line basis over the estimated useful lives of the assets, after taking into account the estimated residual value. Management reviews the estimated useful lives of the assets at least annually in order to determine the amount of depreciation expense to be recorded during any reporting period. The useful lives are based on the Group's historical experience with similar assets and take into account anticipated technological changes. The depreciation expense for future periods is adjusted if there are significant changes from previous estimates.

Impairment for bad and doubtful debts

Management estimates impairment losses for bad and doubtful debts resulting from the inability of the Group’s customers to make the required payments. Management bases the estimates on the aging of the accounts receivable balance, customer credit-worthiness, and historical write-off experience. If the financial condition of the customers were to deteriorate, actual write-offs would be higher than estimated.

Allowance for diminution in value of inventories

If the costs of inventories become higher than their net realizable values, an allowance for diminution in value of inventories is recognized. Net realizable value represents the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale. Management bases the estimates on all available information, including the current market prices of the finished goods and raw materials, and historical operating costs. If the actual selling prices were to be lower or the costs of completion were to be higher than estimated, the actual allowance for diminution in value of inventories could be higher than estimated.

36. EVENTS AFTER THE BALANCE SHEET DATE

According to the purchase and sale agreement signed between SOIHL Hong Kong Holding Limited ("SOIHL HK"), a wholly owned subsidiary of the Group, and Chevron Global Energy Inc. ("CGEI") on March 21, 2017, SOIHL HK is going to acquire the equity shares of and related interest in Chevron South Africa (Proprietary) Limited and the equity shares of Chevron Botswana (Proprietary) Limited ("the Targets") held by CGEI, in a total consideration approximate to USD 900 million ("the Transaction"). The consideration is subject to adjustment according to the circumstances of the Targets, such as the changes in working capital, at completion. The Transaction has been approved by the Board of Directors of the Company, and is still subject to the governments' approval where the Targets operates. The Targets' principle activities are to manufacture and market refined oil products in South Africa and market refined oil products in Botswana.

37. PARENT AND ULTIMATE HOLDING COMPANY

The directors consider the parent and ultimate holding company of the Group as of December 31, 2016 is Sinopec Group Company, a state-owned enterprise established in the PRC. This entity does not produce financial statements available for public use.

38. RESERVES

	2015 RMB	2016 RMB
Capital reserve (Note (a))		
Balance as of December 31 of previous year	(30,497)	28,341
Contribution from SAMC in the Acquisition of Gaoqiao Branch of SAMC (Note 1)	2,214	
Balance as of January 1	(28,283)	28,341
Distribution to SAMC in the Acquisition of Gaoqiao Branch of SAMC (Note 1)		(2,137)
Transaction with non-controlling interests	326	(30)
Contributions to subsidiaries from non-controlling interests	56,224	
Others	74	116
Balance as of December 31	28,341	26,290
Share premium (Note (b))		
Balance as of January 1	41,824	55,850
Conversion of the 2011 Convertible Bonds (Note 38(g))	14,026	
Balance as of December 31	55,850	55,850
Statutory surplus reserve (Note (c))		
Balance as of January 1	76,552	79,640
Appropriation	3,088	
Balance as of December 31	79,640	79,640

Discretionary surplus reserve		
Balance as of January 1	117,000	117,000
Balance as of December 31	117,000	117,000
Other reserves		
Balance as of January 1	(6,179)	(6,781)
Other comprehensive income	(1,169)	7,052
Contributions to subsidiaries from non-controlling interests	446	
Others	121	153
Balance as of December 31	(6,781)	424

Retained earnings (Note (d))		
Balance as of January 1	276,061	281,076
Net income attributable to owners of the Company	32,512	46,672
Final dividend inspect of the previous year, approved and paid during the year (Note (e))	(13,318)	(7,264)
Interim dividend (Note (f))	(10,896)	(9,565)
Appropriation	(3,088)	
Profit distribution to SAMC (Note 1)	(74)	(47)
Others	(121)	(153)
Balance as of December 31	281,076	310,719
	555,126	589,923

Note:

(a) The capital reserve represents (i) the difference between the total amount of the par value of shares issued and the amount of the net assets transferred from Sinopec Group Company in connection with the Reorganization, and (ii) the difference between the considerations paid over the amount of the net assets of entities and related operations acquired from Sinopec Group Company and non-controlling interests.

(b) The application of the share premium account is governed by Sections 167 and 168 of the PRC Company Law.

(c) According to the Company's Articles of Association, the Company is required to transfer 10% of its net income in accordance with the PRC accounting policies complying with Accounting Standards for Business Enterprises ("ASBE"), adopted by the Group to statutory surplus reserve. In the event that the reserve balance reaches 50% of the registered capital, no transfer is needed. The transfer to this reserve must be made before distribution of a dividend to shareholders. Statutory surplus reserve can be used to make good previous years' losses, if any, and may be converted into share capital by the issue of new shares to shareholders in proportion to their existing shareholdings or by increasing the par value of the shares currently held by them, provided that the balance after such issue is not less than 25% of the registered capital.

During the years ended December 31, 2014, 2015 and 2016, the Company transferred RMB 3,215, RMB 3,088 and RMB nil, respectively, being 10% of the net income determined in accordance with the PRC accounting policies complying with ASBE, to this reserve.

(d) As of December 31, 2015 and 2016, the amount of retained earnings available for distribution was RMB 175,679 and RMB 182,440, respectively, being the amount determined in accordance with the accounting policies complying with IFRS and ASBE, respectively. According to the Company's Articles of Association, the amount of retained earnings available for distribution to owners of the Company is the lower of the amount determined in accordance with the accounting policies complying with ASBE and the amount determined in accordance with the accounting policies complying with IFRS.

Pursuant to a resolution passed at the director's meeting on March 24, 2017, final dividends in respect of the year ended December 31, 2016 of RMB 0.17 per share totaling RMB 20,582 were proposed for shareholders' approval at the Annual General Meeting. Final cash dividend for the year ended December 31, 2016 proposed after the balance sheet date has not been recognized as a liability at the balance sheet date.

(e)

Pursuant to the shareholders' approval at the Annual General Meeting on May 27, 2015, a final dividend of RMB 0.11 per share totaling RMB 13,318 according to total shares as of June 18, 2015 was approved. All dividends have been paid on June 19, 2015.

Pursuant to the shareholders' approval at the Annual General Meeting on May 18, 2016, a final dividend of RMB 0.06 per share totaling RMB 7,264 according to total shares as of June 23, 2016 was approved. All dividends have been paid in the year ended December 31, 2016.

(f) Pursuant to the Company's Articles of Association and a resolution passed at the Directors' meeting on August 26, 2015, the directors authorized to declare the interim dividend for the year ended December 31, 2015 of RMB 0.09 per share totaling RMB 10,896. Dividends were paid on September 23, 2015.

Pursuant to the Company's Articles of Association and a resolution passed at the Directors' meeting on August 26, 2016, the directors authorized to declare the interim dividend for the year ended December 31, 2016 of RMB 0.079 per share totaling RMB 9,565. Dividends were paid on September 21, 2016.

(g) On March 1, 2011, the Company issued convertible bonds due in 2017 with an aggregate principal amount of RMB 23,000 in the PRC (the "2011 Convertible Bonds"). The 2011 Convertible Bonds were issued at par value of RMB 100 and bear a fixed interest rate of 0.5% per annum for the first year, 0.7% for the second year, 1.0% for the third year, 1.3% for the fourth year, 1.8% for the fifth year and 2.0% for the sixth year, payable annually. The holders can convert the 2011 Convertible Bonds into A shares of the Company from August 24, 2011 onwards at an initial conversion price of RMB 9.73 per share, subject to adjustment for, amongst other things, cash dividends, subdivision or consolidation of shares, bonus issues, issue of new shares, rights issues, capital distribution, change of control and other events which have an effect on the issued share capital of the Company ("the Conversion Option"). Unless previously redeemed, converted or purchased and cancelled, the 2011 Convertible Bonds will be redeemed within 5 trading days after maturity at 107% of the principal amount, including interest for the sixth year. The initial carrying amounts of the liability component and the derivative component, representing the Conversion Option of the 2011 Convertible Bonds, were RMB 19,279 and RMB 3,610, respectively.

During the term of the 2011 Convertible Bonds, the conversion price may be subject to downward adjustment that if the closing prices of the Company's A Shares in any fifteen trading days out of any thirty consecutive trading days are lower than 80% of the prevailing conversion price, the board of directors may propose downward adjustment to the conversion price subject to the shareholders' approval. The adjusted conversion price shall be not less than (a) the average trading price of the Company's A Shares for the twenty trading days prior to the shareholders' approval, (b) the average trading price of the Company's A Shares on the day immediately before the shareholders' approval, (c) the net asset value per share based on the latest audited financial statements prepared under ASBE, and (d) the nominal value per share.

During the term of the 2011 Convertible Bonds, if the closing price of the A Shares of the Company is not lower than 130% of the conversion price in at least fifteen trading days out of any thirty consecutive trading days, the Company has the right to redeem all or part of the 2011 Convertible Bonds based on the nominal value plus the accrued interest ("the terms of conditional redemption").

As of January 26, 2015, the terms of conditional redemption of 2011 Convertible Bonds of the Company have been triggered for the first time. At the 22nd meeting of the fifth session of the board of the Company (the "Board"), the Board has reviewed and approved the proposal for the redemption of 2011 Convertible Bonds, and decided to exercise the right of redemption and to redeem all of the outstanding 2011 Convertible Bonds registered on February 11, 2015.

From January 1, 2015 to February 11, 2015, the 2011 Convertible Bonds with a total nominal value of RMB 13,647 were converted into 2,790,814,006 A shares of the Company with a conversion price of 4.89 per share. As of February 11, 2015, the total share capital of the Company has been increased to 121,071,209,646 shares. The unconverted convertible bonds amounted to RMB 52.78 (527,760 convertible bonds). As at February 17, 2015, the Company has redeemed and fully paid the unconverted portion at RMB 101.261 per convertible bond (including the accrued interest and interest tax accrued thereon).

The changes in the fair value of the derivative component from December 31, 2014 to December 31, 2015 resulted in realized loss of RMB 259 which has been recorded in "finance costs" section of the consolidated statement of income.

The changes in the fair value of the derivative component from December 31, 2013 to December 31, 2014 resulted in realized loss of RMB 1,613 and an unrealized loss of RMB 2,997, which has been recorded in “finance costs” section of the consolidated statement of income.

During the year ended December 31, 2011, RMB 328 thousand of the 2011 Convertible Bonds were converted into 34,662 A shares of the Company.

During the year ended December 31, 2012, RMB 857,033 thousand of the 2011 Convertible Bonds were converted into 117,724,450 A shares of the Company.

During the year ended December 31, 2013, RMB 725 thousand of the 2011 Convertible Bonds were converted into 114,076 A shares of the Company.

During the year ended December 31, 2014, RMB 8,442 of the 2011 Convertible Bonds were converted into 1,715,081,853 A shares of the Company.

As of December 31, 2015, the 2011 Convertible bonds have been fully converted or redeemed.

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SUPPLEMENTAL INFORMATION ON OIL AND GAS PRODUCING ACTIVITIES (UNAUDITED)
(All currency amounts in millions)
In accordance with the Accounting Standards Update 2010-03, Extractive Activities – Oil and Gas (Topic 932): Oil and Gas Reserve Estimation and Disclosures, (“ASU 2010-03”), issued by the Financial Accounting Standards Board of the United States, this section provides supplemental information on oil and gas exploration and producing activities of the Group and its equity method investments as of December 31, 2014, 2015 and 2016, and for the years then ended in the following six separate tables. Tables I through III provide historical cost information under IFRS pertaining to capitalized costs related to oil and gas producing activities; costs incurred in oil and gas exploration and development; and results of operations related to oil and gas producing activities. Tables IV through VI present information on the Group’s and its equity method investments’ estimated net proved reserve quantities; standardized measure of discounted future net cash flows; and changes in the standardized measure of discounted cash flows.

Tables I to VI of supplemental information on oil and gas producing activities set out below represent information of the Company and its consolidated subsidiaries and equity method investments.

Table I: Capitalized costs related to oil and gas producing activities

	Years ended December 31,								
	2014			2015			2016		
	RMB			RMB			RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
The Group									
Property cost, wells and related equipments and facilities	569,172	533,137	36,035	613,134	572,446	40,688	650,686	606,493	44,193
Supporting equipments and facilities	191,003	190,988	15	204,793	204,773	20	192,877	192,855	22
Uncompleted wells, equipments and facilities	78,971	78,185	786	70,731	69,873	858	52,935	52,931	4
Total capitalized costs	839,146	802,310	36,836	888,658	847,092	41,566	896,498	852,279	44,219
Accumulated depreciation, depletion, amortization and impairment losses	(411,450)	(389,578)	(21,872)	(465,393)	(438,097)	(27,296)	(528,636)	(495,538)	(33,098)
Net capitalized	427,696	412,732	14,964	423,265	408,995	14,270	367,862	356,741	11,121

costs									
Equity method investments									
Share of net capitalized costs of associates and joint ventures	15,277	—	15,277	11,296	—	11,296	9,337	—	9,337
Total of the Group’s and its equity method investments’ results of net capitalized costs	442,973	412,732	30,241	434,561	408,995	25,566	377,199	356,741	20,458

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Table II: Costs incurred in oil and gas exploration and development

	Years ended December 31,								
	2014			2015			2016		
	RMB			RMB			RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
The Group									
Exploration	16,704	16,704	—	11,572	11,572	—	10,942	10,942	—
Development	73,923	71,468	2,455	52,229	49,605	2,624	32,280	31,918	362
Total costs incurred	90,627	88,172	2,455	63,801	61,177	2,624	43,222	42,860	362
Equity method investments									
Share of costs of exploration and development of associates and joint ventures	1,381	—	1,381	1,218	—	1,218	719	—	719
Total of the Group’s and its equity method investments’ results of exploration and development costs	92,008	88,172	3,836	65,019	61,177	3,842	43,941	42,860	1,081

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SUPPLEMENTAL INFORMATION ON OIL AND GAS PRODUCING ACTIVITIES (UNAUDITED)
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Table III: Results of operations related to oil and gas producing activities

	Years ended December 31,								
	2014			2015			2016		
	RMB			RMB			RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
The Group									
Revenues									
Sales	69,223	69,223	—	52,580	52,580	—	36,720	36,720	—
Transfers	141,521	132,920	8,601	70,453	63,900	6,553	58,571	54,555	4,016
	210,744	202,143	8,601	123,033	116,480	6,553	95,291	91,275	4,016
Production costs excluding taxes	(50,567)	(48,962)	(1,605)	(48,315)	(46,883)	(1,432)	(44,077)	(42,652)	(1,425)
Exploration expenses	(10,969)	(10,969)	—	(10,459)	(10,459)	—	(11,035)	(11,035)	—
Depreciation, depletion, amortization and impairment losses	(51,338)	(48,665)	(2,673)	(56,293)	(52,216)	(4,077)	(73,534)	(68,594)	(4,940)
Taxes other than income tax	(31,995)	(31,995)	—	(6,083)	(6,083)	—	(4,576)	(4,576)	—
Earnings before taxation	65,875	61,552	4,323	1,883	839	1,044	(37,931)	(35,582)	(2,349)
Income tax expense	(17,454)	(15,387)	(2,067)	(1,205)	(210)	(995)	(798)	—	(798)
Results of operation from producing activities	48,421	46,165	2,256	678	629	49	(38,729)	(35,582)	(3,147)
Equity method investments									
Revenues									
Sales	12,973	—	12,973	7,207	—	7,207	6,352	—	6,352
	12,973	—	12,973	7,207	—	7,207	6,352	—	6,352
Production costs excluding taxes	(1,371)	—	(1,371)	(1,165)	—	(1,165)	(2,205)	—	(2,205)
Exploration expenses	(10)	—	(10)	(4)	—	(4)	—	—	—
Depreciation, depletion, amortization and impairment losses	(2,961)	—	(2,961)	(2,157)	—	(2,157)	(2,752)	—	(2,752)
Taxes other than income tax	(6,881)	—	(6,881)	(3,036)	—	(3,036)	(2,570)	—	(2,570)

Earnings before taxation	1,750	—	1,750	845	—	845	(1,175)	—	(1,175)
Income tax expense	(958)	—	(958)	(418)	—	(418)	(195)	—	(195)
Share of net income for producing activities of associates and joint ventures	792	—	792	427	—	427	(1,370)	—	(1,370)
Total of the Group's and its equity method investments' results of operations for producing activities	49,213	46,165	3,048	1,105	629	476	(40,099)	(35,582)	(4,517)

The results of operations for producing activities for the years ended December 31, 2014, 2015 and 2016 are shown above. Revenues include sales to unaffiliated parties and transfers (essentially at third-party sales prices) to other segments of the Group. Income taxes are based on statutory tax rates, reflecting allowable deductions and tax credits. General corporate overhead and interest income and expense are excluded from the results of operations.

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SUPPLEMENTAL INFORMATION ON OIL AND GAS PRODUCING ACTIVITIES (UNAUDITED)
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Table IV: Reserve quantities information

The Group's and its equity method investments' estimated net proved underground oil and gas reserves and changes thereto for the years ended December 31, 2014, 2015 and 2016 are shown in the following table.

Proved oil and gas 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 regulation before contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether the estimate is a deterministic estimate or probabilistic estimate. Due to the inherent uncertainties and the limited nature of reservoir data, estimates of underground reserves are subject to change as additional information becomes available.

Proved developed oil and gas reserves are proved reserves that can be expected to be recovered through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared with the cost of a new well.

"Net" reserves exclude royalties and interests owned by others and reflect contractual arrangements and obligation of rental fee in effect at the time of the estimate.

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	Years ended December 31, 2014 RMB			2015 RMB			2016 RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
The Group									
Proved developed and undeveloped reserves (oil) (million barrels)									
Beginning of year	2,841	2,773	68	2,772	2,700	72	1,957	1,902	55
Revisions of previous estimates	(38)	(46)	8	(638)	(641)	3	(505)	(509)	4
Improved recovery	154	154	—	99	99	—	35	35	—
Extensions and discoveries	141	130	11	41	41	—	41	41	—
Production	(326)	(311)	(15)	(317)	(297)	(20)	(272)	(253)	(19)
End of year	2,772	2,700	72	1,957	1,902	55	1,256	1,216	40
Non-controlling interest in proved developed and undeveloped reserves at the end of year	32	—	32	25	—	25	18	—	18
Proved developed reserves									
Beginning of year	2,562	2,501	61	2,529	2,465	64	1,753	1,701	52
End of year	2,529	2,465	64	1,753	1,701	52	1,120	1,080	40
Proved undeveloped reserves									
Beginning of year	279	272	7	243	235	8	204	201	3
End of year	243	235	8	204	201	3	136	136	—
Proved developed and undeveloped reserves (gas) (billion cubic feet)									
Beginning of year	6,493	6,493	—	6,715	6,715	—	7,551	7,551	—
Revisions of previous estimates	175	175	—	(252)	(252)	—	(170)	(170)	—
Improved recovery	48	48	—	70	70	—	66	66	—
Extensions and discoveries	711	711	—	1,749	1,749	—	475	475	—
Production	(712)	(712)	—	(731)	(731)	—	(762)	(762)	—
End of year	6,715	6,715	—	7,551	7,551	—	7,160	7,160	—
Proved developed reserves									
Beginning of year	5,781	5,781	—	5,987	5,987	—	6,439	6,439	—
End of year	5,987	5,987	—	6,439	6,439	—	6,436	6,436	—
Proved undeveloped reserves									
Beginning of year	712	712	—	728	728	—	1,112	1,112	—
End of year	728	728	—	1,112	1,112	—	724	724	—

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	Years ended December 31,								
	2014			2015			2016		
	RMB			RMB			RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
Equity method investments									
Proved developed and undeveloped reserves of associates and joint ventures (oil) (million barrels)									
Beginning of year	289	—	289	275	—	275	286	—	286
Revisions of previous estimates	16	—	16	34	—	34	(2)	—	(2)
Improved recovery	—	—	—	1	—	1	3	—	3
Extensions and discoveries	2	—	2	9	—	9	41	—	41
Production	(32)	—	(32)	(33)	—	(33)	(32)	—	(32)
End of year	275	—	275	286	—	286	296	—	296
Proved developed reserves									
Beginning of year	259	—	259	252	—	252	260	—	260
End of year	252	—	252	260	—	260	273	—	273
Proved undeveloped reserves									
Beginning of year	30	—	30	23	—	23	26	—	26
End of year	23	—	23	26	—	26	23	—	23
Proved developed and undeveloped reserves of associates and joint ventures (gas) (billion cubic feet)									
Beginning of year	27	—	27	26	—	26	19	—	19
Revisions of previous estimates	4	—	4	(3)	—	(3)	3	—	3
Improved recovery	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	—	—
Production	(5)	—	(5)	(4)	—	(4)	(4)	—	(4)
End of year	26	—	26	19	—	19	18	—	18
Proved developed reserves									
Beginning of year	24	—	24	24	—	24	18	—	18
End of year	24	—	24	18	—	18	18	—	18
Proved undeveloped reserves									
Beginning of year	3	—	3	2	—	2	1	—	1
End of year	2	—	2	1	—	1	—	—	—

CHINA PETROLEUM & CHEMICAL CORPORATION AND SUBSIDIARIES

SUPPLEMENTAL INFORMATION ON OIL AND GAS PRODUCING ACTIVITIES (UNAUDITED)
(All currency amounts in millions)

	Years ended December 31,								
	2014			2015			2016		
	RMB			RMB			RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
Total of the Group and its equity method investments									
Proved developed and undeveloped reserves (oil) (million barrels)									
Beginning of year	3,130	2,773	357	3,047	2,700	347	2,243	1,902	341
End of year	3,047	2,700	347	2,243	1,902	341	1,552	1,216	336
Proved developed and undeveloped reserves (gas) (billion cubic feet)									
Beginning of year	6,520	6,493	27	6,741	6,715	26	7,570	7,551	19
End of year	6,741	6,715	26	7,570	7,551	19	7,178	7,160	18

Table V: Standardized measure of discounted future net cash flows

The standardized measure of discounted future net cash flows, related to the above proved oil and gas reserves, is calculated in accordance with the requirements of ASU 2010-03. Estimated future cash inflows from production are computed by applying the average, first-day-of-the-month price for oil and gas during the twelve-month period before the ending date of the period covered by the report to year-end quantities of estimated net proved reserves. Future price changes are limited to those provided by contractual arrangements in existence at the end of each reporting year. Future development and production costs are those estimated future expenditures necessary to develop and produce year-end estimated proved reserves based on year-end cost indices, assuming continuation of year-end economic conditions. Estimated future income taxes are calculated by applying appropriate year-end statutory tax rates to estimated future pre-tax net cash flows, less the tax basis of related assets. Discounted future net cash flows are calculated using 10% discount factors. This discounting requires a year-by-year estimate of when the future expenditure will be incurred and when the reserves will be produced.

The information provided does not represent management's estimate of the Group's and its equity method investments' expected future cash flows or value of proved oil and gas reserves. Estimates of proved reserve quantities are imprecise and change over time as new information becomes available. Moreover, probable and possible reserves, which may become proved in the future, are excluded from the calculations. The arbitrary valuation requires assumptions as to the timing and amount of future development and production costs. The calculations are made for the years ended December 31, 2014, 2015 and 2016 and should not be relied upon as an indication of the Group's and its equity method investments' future cash flows or value of its oil and gas reserves.

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(All currency amounts in millions)

	Years ended December 31, 2014 RMB			2015 RMB			2016 RMB		
	Total	China	Other countries (i)	Total	China	Other countries	Total	China	Other countries
The Group									
Future cash flows	1,807,330	1,763,757	43,573	931,637	912,898	18,739	603,785	592,389	11,396
Future production costs	(823,575)	(811,267)	(12,308)	(440,079)	(430,695)	(9,384)	(271,650)	(266,549)	(5,101)
Future development costs	(46,684)	(38,442)	(8,242)	(38,669)	(34,092)	(4,577)	(20,241)	(15,615)	(4,626)
Future income tax expenses	(135,219)	(125,329)	(9,890)	(11,139)	(9,779)	(1,360)	(1,405)	—	(1,405)
Undiscounted future net cash flows	801,852	788,719	13,133	441,750	438,332	3,418	310,489	310,225	264
10% annual discount for estimated timing of cash flows	(288,393)	(283,670)	(4,723)	(152,031)	(150,855)	(1,176)	(102,342)	(102,332)	(10)
Standardized measure of discounted future net cash flows	513,459	505,049	8,410	289,719	287,477	2,242	208,147	207,893	254
Discounted future net cash flows attributable to non–controlling interests	4,815	—	4,815	1,356	—	1,356	114	—	114
Equity method investments									
Future cash flows	77,593	—	77,593	41,013	—	41,013	35,690	—	35,690
Future production costs	(14,393)	—	(14,393)	(11,665)	—	(11,665)	(10,783)	—	(10,783)

Future development costs	(13,313)	—	(13,313)	(2,996)	—	(2,996)	(3,444)	—	(3,444)
Future income tax expenses	(8,530)	—	(8,530)	(4,159)	—	(4,159)	(3,303)	—	(3,303)
Undiscounted future net cash flows	41,357	—	41,357	22,193	—	22,193	18,160	—	18,160
10% annual discount for estimated timing of cash flows	(21,707)	—	(21,707)	(9,828)	—	(9,828)	(7,969)	—	(7,969)
Standardized measure of discounted future net cash flows	19,650	—	19,650	12,365	—	12,365	10,191	—	10,191
Total of the Group's and its equity method investments' results of standardized measure of discounted future net cash flows	533,109	505,049	28,060	302,084	287,477	14,607	218,338	207,893	10,445

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SUPPLEMENTAL INFORMATION ON OIL AND GAS PRODUCING ACTIVITIES (UNAUDITED)
(All currency amounts in millions)

Table VI: Changes in the standardized measure of discounted cash flows

	Years ended December 31,		
	2014	2015	2016
	RMB	RMB	RMB
The Group			
Sales and transfers of oil and gas produced, net of production costs	(128,182)	(68,635)	(46,637)
Net changes in prices and production costs	(11,220)	(281,975)	(53,715)
Net changes in estimated future development cost	(14,207)	(6,873)	6,073
Net changes due to extensions, discoveries and improved recoveries	68,147	44,838	15,113
Revisions of previous quantity estimates	(1,453)	(68,875)	(48,479)
Previously estimated development costs incurred during the year	22,286	18,494	9,370
Accretion of discount	60,425	60,005	30,340
Net changes in income taxes	6,262	79,281	6,363
Net changes for the year	2,058	(223,740)	(81,572)
Equity method investments			
Sales and transfers of oil and gas produced, net of production costs	(4,721)	(3,006)	(1,577)
Net changes in prices and production costs	(4,573)	(12,987)	(3,952)
Net changes in estimated future development cost	(431)	997	(534)
Net changes due to extensions, discoveries and improved recoveries	404	611	1,887
Revisions of previous quantity estimates	978	1,520	(92)
Previously estimated development costs incurred during the year	1,343	1,163	322
Accretion of discount	2,746	2,681	1,308
Net changes in income taxes	643	1,736	464
Net changes for the year	(3,611)	(7,285)	(2,174)
Total of the Group’s and its equity method investments’ results of net changes for the year	(1,553)	(231,025)	(83,746)