

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

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, 2021

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 FROM TO

COMMISSION FILE NUMBER 1-15138

中国石油化工股份有限公司

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)

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(Name, Telephone, Email and/or Facsimile number and Address of Company Contact Person)

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

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

* Not for trading, but only in connection with the registration of American Depositary 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 RMB1.00 per share	25,513,438,600
A Shares, par value RMB1.00 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.

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☒ Yes ☐ 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

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 ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

☒ Yes ☐ No

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Emerging growth company ☐

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

U.S. GAAP ☐

International Financial Reporting Standards
as issued by the International Accounting Standards Board ☒

Other ☐

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

☐ Item 17 ☐ Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

☐ Yes ☒ No

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE 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.,” “Company,” “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 7.21, 7.20 and 7.22 barrels for the years ended December 31, 2019, 2020 and 2021, respectively, for crude oil 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 in this annual report were made at RMB6.4515 to US\$1.00, the average of mid-point exchange rates of Renminbi as published by the PRC State Administration of Foreign Exchange (SAFE) for the year of 2021. We do not suggest that the Renminbi or US dollar amount can be converted to US dollars or Renminbi, as appropriate, at this exchange rate or any specific exchange rate.

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—D. 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,
- failures to receive crude oil and gas storage and transportation services subject to terms we agreed to,
- 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. [Reserved]

B. CAPITALIZATION AND INDEBTEDNESS

Not applicable.

C. REASONS FOR THE OFFER AND USE OF PROCEEDS

Not applicable.

D. RISK FACTORS

Risks Relating to the PRC

Changes in government regulations and legislation may limit our activities and affect our business operations and the price of our ADSs, and result in risks that affect our future financing plans and securities offerings, the liquidity of our investors, and the enforcement of court judgment and shareholders' rights.

We are a joint stock limited company incorporated in China, our controlling shareholder is Sinopec Group Company, which is in turn controlled by the State-owned Assets Supervision and Administration Commission of the State Council of China. Our management makes decisions with respect to our business strategies and operations in accordance with applicable laws and regulations, listing rules, and industrial policies based on procedures stipulated in our articles of association and other corporate governance documents and policies. All major corporate matters relating to our business operations are (i) submitted for the approval of our board of directors, which is required to review and approve certain operational matters, and convene general meetings of shareholders and present certain matters to the shareholders for their approval, in each case in accordance with our articles of association, (ii) approved by resolutions adopted by our board of directors and/or shareholders, as appropriate, and (iii) carried out under the supervision of our board of supervisors. Because our business strategies are formulated, and our business operations are conducted, based on and pursuant to applicable laws and regulations and industrial policies, any changes thereto that bear on our business operations will likely have an impact on our business and our results of operations.

As a major integrated petroleum and petrochemical company operating in China, our business operations may be directly affected by new laws and regulations covering our industries that are enacted by the PRC government or the exercise of its supervisory power over our industries. The PRC government, while gradually liberalizing its regulations on entry into and operation in the petroleum and petrochemical industry and improving and developing the market-based regime – where the price of regular domestically-produced natural gas and imported pipeline natural gas is regulated, and the price of imported LNG, non-regular domestically-produced natural gas and natural gas traded via natural gas exchange is determined by the market – continues to exercise certain controls over such industry in China. These control mechanisms include granting the licenses to explore for and produce crude oil and natural gas, granting the licenses to market and distribute crude oil and refined oil products, setting periodically 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. In addition, the PRC government may continue to make and adopt changes to its existing macroeconomic and industry policies for the petroleum and petrochemical industry, including further reforming and improvement of pricing mechanism of refined oil products and natural gas, which could impact the development of the petroleum and petrochemical industry in China and the production and operations of the market players in such industry. Our board of directors and management, when developing and formulating our business plan and operating strategies, are required to take into consideration of those control mechanisms and industry policies, some of which may impose constraints and limitations on our business planning and strategy-making, and we cannot assure you there will not be material adverse effects on our operations and profitability. The Special Administrative Measures for Entry of Foreign Investment (Negative List) (2021 Version) currently in effect, or the Negative List, while requiring enterprises incorporated in China and operating in industries that are subject to foreign investment prohibition to obtain approval from relevant competent government authorities for their overseas securities offerings and listings, does not prohibit or impose restrictions on foreign investments in the petroleum and petrochemical industries. However, we cannot rule out the possibility that the PRC government may in the future amend and revise PRC laws and regulations in this area to advance new energy security policies. In addition, the Measures for the Security Review of Foreign Investments, which was issued by the PRC government and came into effect on January 18, 2021, provides that a foreign investor must seek the approval of the competent PRC regulatory authorities prior to investing in key energy and resources sectors that have national security implications where such investment will result in such investor obtaining actual control over the invested enterprises. The Measures for the Security Review of Foreign Investments also provides that PRC regulatory authorities should enact implementing rules applicable to the acquisition by foreign investors of publicly-traded securities of listed companies that have or may have national security consequences, and pending the enactment of such implementing rules, there are uncertainties as to whether there are restrictions on open-market purchase of our publicly-traded ADSs by foreign investors under the said measures. Given that Sinopec Group Company, our controlling shareholder, currently holds approximately 68.85% of our outstanding shares, we do not expect any foreign investor will be able to obtain control in us by investing in our publicly-traded H shares or ADSs. Meanwhile, other than approvals and filing processes required under prevailing PRC laws and regulations, our ability to transfer money or other assets out of China or enter into business transactions with non-Chinese parties in the ordinary course of our business have not been substantively affected by the Measures for the Security Review of Foreign Investments. If the PRC government, in keeping with its national security policy, promulgates new laws and regulations in the future to regulate and restrict our ability to enter into cross-border transactions or obtain foreign investments, we may be required to make adjustments to our operating and financing plans, which may in turn affect our business operations and financial position, and have material impacts on the value of our ADSs. If, in the future, foreign investments in petroleum and/or petrochemical industries in China become prohibited or restricted, investors in our ADSs may need to seek exit for their investments in accordance with applicable laws and regulations, which may result in a significant decline in the price of our ADSs and materially and adversely affect the value of the investments made by such foreign investors.

In light of the dynamic nature of the Chinese economy and the continuing evolvement of the PRC legal system, the PRC authorities may promulgate new laws and regulations regulating the petroleum and petrochemical industry, or overall investment and market activities in general. While certain legislative changes are required by law to go through review and comment procedures open to certain market participants or the general public, and to the extent that such changes are made to regulate our business operation, we may have the opportunity to participate in such review and comment procedures during the policy and rule-making process, we cannot assure you that the rules or policies finally adopted will be in our favor. The new regulations and policies or the amendment to the current ones may at times only afford a short period for transition or adjustment, and may influence the implementation of our established business plans and operation strategies may subject us to enhanced compliance scrutiny, result in more compliance costs and expenses, or otherwise adversely affect our business by requiring adjustments to our business plans and operations. For example, the PRC government has recently adopted, and may further adopt, stricter laws and regulations with respect to the environment protection and carbon emission, the compliance of which may lead to higher operating costs and expenses, and a prolonged project development timetable. As a result of those new or amended rules and policies, we may not have control over the timing or outcome of approvals of certain of our planned projects, and may encounter significant constraints on our ability to implement our business strategies, to develop or expand our business operations or to maximize our profitability, which could in turn adversely affect our operations by raising our operating costs and lowering our profits or otherwise impeding our efforts to improve our operational efficiency and profitability, and further adversely affect the market expectations of our business operations. Depending on the extent to which our operations are so affected, there may be a material change in our operations and the value of our ADSs.

Specifically, the PRC government has recently taken various legislative initiatives in the area of data security and to address market monopoly concerns. With respect to data security protection, the revised Measures for Cybersecurity Review took effect on February 15, 2022 and provides that (i) critical information infrastructures operators, or CIIOs, must evaluate potential risks that the deployment of any products and services will have on national security prior to the procurement of such products and services, and must apply for a cybersecurity review if such products and services affect or may affect national security, and “online platform operators” must apply for a cybersecurity review if any of their data processing activities affects or may affect national security, and (ii) if an “online platform operator” that is in possession of personal data of more than one million users intends to list its securities on a foreign stock exchange, it must apply for a cybersecurity review. However, the measures have not clarified if any follow-on offering of ADSs by us will be regulated as a “listing shares on a foreign stock exchange” or whether public companies already listed overseas would be subject to regular cybersecurity reviews. With respect to anti-monopoly laws and regulations, the PRC Anti-monopoly Law prohibits monopolistic activities by market participants such as the entering into monopoly agreements, the abuse of dominant market position and anti-competitive activities that have or may have an effect of eliminating or reducing competition. In addition, the National Development and Reform Commission, the State Administration of Market Regulation and the Cyberspace Administration of China, or the CAC, among others, jointly issued the Several Opinions on Promotion of the Standardized, Sound and Sustainable Development of Platform Economy, which embodies legislative and regulatory anti-monopoly initiatives in relation to the “platform economy.” The Opinions on Promotion of the Standardized, Sound and Sustainable Development of Platform Economy focuses on the following aspects of the platform economy: formulation and promulgation of regulations on the prohibition of unfair online anti-competitive activities; future issuance of detailed rules applicable to data processing activities conducted by online platform enterprises; the formulation of regulations on pricing; the investigation on monopoly and unfair competition activities; and the enforcement against monopolistic agreements, abuse of dominant market position and unlawful market concentration. During the reporting period of this annual report, we have not received from the CAC, the Ministry of Public Security or its local counterparts, or any industrial regulatory authorities, any notices imposing administrative penalties against us or demanding any remedial actions be taken in relation to data security matters. We do not believe the abovementioned rules have any material impact on our capacity to operate our business in the ordinary course, obtain foreign investment, or maintain our listing overseas. However, we may be categorized by PRC authorities as a CIIO or an online platform operation in possession of personal data of more than one million users due to our extensive and broad business operations. In addition, given our significant market share in the PRC petroleum and petrochemical industries, we cannot rule out the possibility that the abovementioned rules, or other new rules and policies to be formulated and promulgated in relation to data security, market monopoly or other aspects of our business operation, and the enforcement thereof may impose more stringent compliance requirements on us, compel us to adjust our business plan and the way we operate our business, or otherwise have a material impact on our ability to obtain foreign investments or maintain our listing on stock exchanges in the U.S. or other foreign countries.

We are required to obtain permits and approvals for the operation of our business pursuant to applicable PRC laws, regulation and industrial policies. See "Item 4 Information of the Company — B. Business Overview — Regulatory Matters" for a list of material permits and approvals for our business operation. We have obtained all approvals and permits that are material for our business operations under the PRC laws and regulations, and we have not been subject to any material administrative penalties from the PRC regulatory authorities. In addition, pursuant to the Special Regulations of the State Council concerning Offering and Listing of Shares Overseas by Companies Limited by Shares promulgated in 1994, which is currently in effect, as a PRC company with equity securities listed in PRC, Hong Kong and the U.S., we are required to obtain the prior approval of the China Securities Regulatory Commission (the "CSRC") for any public offering of equity securities to foreign investors. In addition, we may be subject to legal liabilities under the PRC Securities Law if our offering or the trading of our securities overseas is deemed to "disrupt the order of PRC domestic market and harm legitimate rights and interests of PRC domestic investors". We have received from the CSRC the approval for our public offerings of equity securities in the past. We are required to continue to comply with the provisions of the PRC Securities Law and we remain subject to the supervision of the PRC regulatory authorities. However, we cannot assure you that we will can timely receive such approval if we wish to make any new equity offerings in the future. Pursuant to the Provisions of the State Council on the Administration of Overseas Securities Offering and Listing by Domestic Companies (Draft for Comments), and the Administrative Measures for the Filing of Overseas Securities Offering and Listing by Domestic Companies (Draft for Comments) issued by the CSRC on December 24, 2021, collectively, the Overseas Listing Rules, the abovementioned Special Regulations of the State Council concerning Offering and Listing of Shares Overseas by Companies Limited by Shares will be replaced upon the effectiveness of the Overseas Listing Rules. The Overseas Listing Rules provides that our overseas refinancing activities may be subject to a filing process within three business days after their completion. However, it is uncertain when and in what form will the Overseas Listing Rules be enacted. If we fail to obtain any requisite approvals with respect to future offerings of our equity securities to foreign investors, or if we inadvertently conclude that such approvals are not required, our ability to execute our financing and equity offering plans may be significantly limited or completely hindered. In the absence of alternative sources of financing, this could impede our efforts to improve our liquidity or expand our business operation, and we cannot assure you that there will not be material negative impacts on our financial conditions and result of operations, or a significant decline in the value of our ADSs. Furthermore, we cannot assure you that PRC authorities will not promulgate new laws to further regulate the listing of our ADSs, or impose new compliance obligations for us to maintain the listing of our ADSs. Certain of our actions in relation to our overseas listing may also constitute a violation of PRC Securities Law or other relevant laws, and as a consequence, subject us to penalties, including without limitation fines, limitations on our ability to conduct financing activities, or the suspension or termination of certain aspects of our business operations, which may in turn result in substantial difficulty for us to maintain our listing overseas. Any measures taken by the PRC authorities to regulate or exert more control over securities offerings conducted overseas and foreign investments in China-based issuers may limit or hinder our ability to offer or continue to offer securities to investors, and the price of our ADSs may decline significantly, leading to a material adverse effect on the value of investments in our ADSs by investors.

In addition, 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. While we have not been denied of our applications for foreign exchange for the payment of our dividends, we cannot rule out the possibility that such control and limitation could affect our ability to obtain foreign exchange to pay cash dividends declared on our H shares (including ADSs representing our H shares). Consequently, we cannot assure you that your investment will not be subject to foreign exchange payment risks as a result of these foreign exchange control measures. See "Risks Relating to the PRC — Government control of currency conversion and exchange rate fluctuation may adversely affect our operations and financial results." and "Item 8. Financial Information — A. Consolidated Statements and Other Financial Information — Dividend Distribution Policy."

Furthermore, the primary sources of our 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, the protection of shareholder's rights and access to information granted by their respective provisions are different from those applicable to companies incorporated in the United States and other Western countries, and are constantly evolving. The legal system in China is a civil law system based on written statutes. Unlike common law systems, such legal system is a system in which decided legal cases or administrative actions may be of reference value but have less precedential value, and a court ruling or administrative finding is made primarily based on written statutes currently in effect. The legal system in China also evolves rapidly, and the interpretations of laws, regulations and rules may contain inconsistencies. In addition, the judicial and administrative authorities may, within the scope of their respective discretions, enforce laws and regulations inconsistently, which may result in uncertainties with respect to the interpretation and enforcement of PRC laws and regulations. While China has become a signatory to various treaties providing for the recognition and enforcement of certain foreign judgments in general, whether a specific judgment issued by a foreign court is capable of being recognized or enforced in China is still subject to uncertainties. Therefore, our investors may be faced with risks associated with the enforcement of court

judgements and shareholders rights. See “Risks Relating to the PRC — Risks relating to enforcement of shareholder rights; Mandatory arbitration.”

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 government, in accordance with law, to impose fines, to order correction, limitation on production or discharge, and suspend production for pollution discharge exceeding standards;
- the government to impose fines for late payment of environmental tax for the discharge of waste materials;
- the government, in accordance with law, to order correction, suspend production and impose fines for unlicensed or uncertified pollution discharge;
- the government, at its discretion, to seal up or close down any facility which has caused or may cause severe environmental damage and require it to correct or stop operations; 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. In the future, we may have certain facilities built in regions newly reclassified as ecological preservation areas, and therefore need to be relocated. Also, 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.

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 technologies. As a result, our unconventional oil and gas operations rely on unproven technology which may expose us to higher environmental compliance standards and requirements, which, in turn, would require us to incur additional expenditures on environmental matters.

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 new constructions, revamping and expansion projects are subject to governmental approval. 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 is 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 US dollar and other foreign currencies fluctuates with market 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. The changes in foreign exchange rate will impact our cost in purchasing crude oil given the majority of our crude oil purchases are settled in foreign currencies and priced in US dollar. Besides, prices of refined oil products are guided by the PRC government and are pegged to the exchange rate of the Renminbi against the US 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 the 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 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. Nonetheless, there are uncertainties with respect to the outcome of any action brought in China to enforce an arbitral award.

Certain judgments obtained against our directors and/or officers by our shareholders may not be enforceable.

We are a company limited by shares incorporated under the laws of China. The majority of our directors and executive officers reside within China or Hong Kong. As a result, your ability to bring an action against us or against these individuals in the United States in the event that you believe your rights have been infringed under the U.S. federal securities laws or otherwise, or the procedures in relation thereto, may be subject to uncertainties. Even if you are successful in bringing an action of this kind, whether you can successfully, pursuant to the laws of the PRC or Hong Kong enforce a judgment against our directors and officers in China is uncertain.

The Public Company Accounting Oversight Board has determined that it is unable to inspect or investigate completely registered public accounting firms headquartered in China, including our auditor, because of a position taken by one or more

authorities in China. As a result, our ADSs may be delisted or prohibited from trading in the over-the-counter trading market in the United States under the Holding Foreign Companies Accountable Act, the occurrence or threatened occurrence of which may materially affect the value of your investment.

The Holding Foreign Companies Accountable Act, or the HFCA Act, was enacted on December 18, 2020. The HFCA Act states if the SEC determines that we have filed audit reports issued by a registered public accounting firm that has not been subject to inspection by the PCAOB for three consecutive years beginning in 2021, the SEC shall prohibit our shares or ADSs from being traded on a national securities exchange or in the over-the-counter trading market in the U.S.

On March 24, 2021, the SEC adopted interim final rules relating to the implementation of certain disclosure and documentation requirements of the HFCA Act. We will be required to comply with these rules if the SEC identifies us as having a “non-inspection” year under a process to be subsequently established by the SEC. On September 22, 2021, the PCAOB adopted a new rule related to its responsibilities under the HFCA Act, which provides a framework for the PCAOB to use when determining, as contemplated under the HFCA Act, whether it is unable to inspect or investigate completely registered public accounting firms located in a foreign jurisdiction because of a position taken by one or more authorities in that jurisdiction. The PCAOB issued a HFCA Act Determination Report to the SEC on December 16, 2021, notifying SEC of its determination that that it is unable to inspect or investigate completely registered public accounting firms headquartered in China because of a position taken by one or more authorities in China (the “PCAOB PRC Determination”). Our auditor is subject to the PCAOB PRC Determination.

On December 2, 2021, the SEC adopted amendments to finalize rules implementing the submission and disclosure requirements in the HFCA Act. These rules apply to certain registrants, or the SEC-Identified Issuers, that the SEC identifies as having filed an annual report with an audit report issued by a registered public accounting firm that the PCAOB has determined it is unable to inspect or investigate completely because of a position taken by an authority in the foreign jurisdiction. Identification of SEC-Identified Issuers will be made for fiscal years beginning after December 18, 2020. In other words, because our auditor is subject to the PCAOB PRC Determination, we may be classified as an SEC-Identified Issuer after we have filed our annual reports for fiscal year ended December 31, 2021. The final rules also provide an update to the interim final rules adopted on March 24, 2021 in terms of the submission and disclosure requirements of the HFCA Act which must be followed by an SEC-Identified Issuer in the annual report for each year in which it is so identified. The SEC will also delist or impose an initial trading prohibition on a registrant as soon as practicable after it is conclusively classified as a SEC-Identified Issuer for three consecutive years under the final rules.

On June 22, 2021, the U.S. Senate passed a bill which, if passed by the U.S. House of Representatives and signed into law, would reduce the number of consecutive non-inspection years required for triggering the prohibitions under the HFCA Act from three years to two years. Furthermore, the SEC may propose additional rules or guidance that could impose more stringent disclosure requirements or more unfavorable delisting and/or trading prohibition timeline under the HFCA Act regime.

In May 2013, the PCAOB announced that it had entered into a Memorandum of Understanding on Enforcement Cooperation with the CSRC and the PRC Ministry of Finance, which establishes a cooperative framework between the parties for the production and exchange of audit documents relevant to investigations undertaken by the PCAOB in the PRC or by the CSRC or the PRC Ministry of Finance in the United States. The PCAOB continues to be in discussions with the CSRC and the PRC Ministry of Finance to permit joint inspections in the PRC of audit firms that are registered with the PCAOB and audit Chinese companies that trade on U.S. exchanges.

If our auditor is subject to the PCAOB PRC Determination and as a result we are classified as a SEC-Identified Issuer, investors may lose confidence in our financial statements and reporting, the price of our securities may be adversely affected and our securities could be delisted or prohibited from being traded over-the-counter under the HFCA Act. Further, uncertainties relating to potential legislative changes in this area could cause the market price of our ADSs to be materially affected and our securities to be delisted or prohibited from trading earlier than the timeframe that is currently provided under the HFCA Act. In the event of the delisting of our securities or the prohibition of our securities from trading, investors in our ADS will need to dispose of their ADSs or exchange their ADSs for our H shares on applicable terms and conditions and may suffer significant loss on their investment. If any investor fails to exchange any of our ADSs for our H Shares for any reason, such ADSs may become worthless due to their loss of liquidity on the NYSE.

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 market 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. We use financial derivatives, including commodity futures, to hedge risks of the volatility in the crude oil price. The use of such financial derivatives may not successfully hedge all risks. The fair value of derivatives fluctuates due to the volatility of crude oil price, which in turn impacts our financial performance. 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 subject to material risks resulted from 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 reserves might be discovered. Exploring for, developing and acquiring reserves are 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 a low oil price environment, only large scale, high quality reserves meet our development criteria, and some exploration projects may not be viable and thus 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 adversely affect our results of operations and financial condition.

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

We purchased a significant portion of crude oil and other feedstock from external suppliers located in different countries and regions in the world. Our business growth requires us to source an increasing amount of crude oil from external suppliers. We continued to source our crude oil from a diversified portfolio of external suppliers to avoid any potential risks in relation to the purchase of the crude oil, however, we are still subject to the political, geographical and economic risks associated with these countries and areas. If our contractual relationships with one or more external 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.

Since 2020, due to factors such as the continuous pandemic of COVID-19 and its variants, the imbalance between crude oil supply and demand, the sharp decline in oil production by major oil-producing countries, geopolitical situations, and the recession of global economic growth, crude oil prices have fluctuated sharply. In addition, some extreme major incidents may also occur and causes short-term disruptions to crude oil supplies in certain regions. We have taken flexible measures in answer to such changes and incidents, however, it is still impossible for us to completely avert risks arising from the sharp fluctuations in international crude oil prices and the sudden short-term disruption to regional crude oil supply.

We rely on our collaboration agreement with PipeChina for the use of certain oil and gas storage and pipeline facilities. Any adverse change to our collaboration with PipeChina may materially impact our business operation and financial status.

In September 2020, we closed the transaction with PipeChina, pursuant to which we sold certain oil and gas storage and pipeline facilities to PipeChina in exchange for approximately 14% of the registered capital of, and cash paid by, PipeChina as consideration. We have entered into a long-term service agreement with respect to the use of oil and gas storage and pipeline facilities with PipeChina, pursuant to which PipeChina shall provide us with oil and gas transportation and storage services on the agreed terms including, among others, that PipeChina shall meet our demand of production and operation following the agreed service specifications and standards.

Due to the special nature of our business operations, especially our production, refining and marketing activities, the successful execution of our operation plan will largely depend on our access to reliable and stable performance of oil and gas storage and transportation services, through our owned self-operated storage and pipeline facilities as we did prior to the transaction with PipeChina, and/or through purchasing storage and transportation services from PipeChina and other third parties. Considering the difficulty of the construction of the oil and gas pipeline, storage and other ancillary facilities, which involves time-consuming construction projects with major capital expenditure that are subject to regulatory approvals, we expect that, in the foreseeable future, it would be hard for us to promptly construct, develop and commission oil and gas pipeline, storage and other ancillary facilities, and our main production sites will be connected with and supported by pipelines and storage facilities owned by PipeChina. As a result, the smooth operation of our business in the future will partially depend upon our collaboration relationship with PipeChina based on service agreement(s) between us and PipeChina. We do not have control over PipeChina, and all key terms of service agreements between us and PipeChina shall be determined based on the applicable laws and regulations as well as the result of arm's-length commercial negotiations between us and PipeChina, as a result of which we cannot guarantee that we will continue to secure service from PipeChina on current terms in the future. If we cannot continue to receive service from PipeChina on terms we desire, the operation of our business may be interrupted, and the results of our operations and our financial condition may be materially impacted.

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 involve 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 damage to our properties and the property of others. There is also risk of mechanical failure and equipment shutdowns both in general and as a result of subsequent 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 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, established a dual-track risk prevention regime focusing on both risk control and management based on risk classification and the inspection and treatment of hidden risks, and developed a risk evaluation and management platform, "PHAMS," to conduct dynamic and quantitative management and control of relevant risks 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 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 estimate of reserves is affected by, among other things:

- 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
- the production plans.

In addition, new drilling, testing and production results achieved following completion of 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 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 terminate drilling operations because of many factors, including, but not limited to, the following:

- disruption caused by unexpected geological factors;
- irregularities in geological formations pressure;
- equipment failures;
- oil/gas 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 for, 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 our 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 our ability to influence or adjust plans for exploration and development related expenditures is limited under joint operating agreements for those projects in which we have partners;

- government approvals required for exploration and development-related expenditures and investments in jurisdictions in which we conduct business; and
- economic, political and other conditions in jurisdictions in which we conduct business.

We may, as appropriate, 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 without limitation equipment shortages or failures, natural hazards, unexpected drilling conditions, mechanical and technical difficulties caused by complex geological conditions and operating errors by our employees. 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 project that we undertake may not yield expected 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.

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 in recent years. A number of international, national and regional measures to limit greenhouse gas emissions have been enacted. The Paris Agreement adopted 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. Compliance with these measures could result in substantial impact on capital expenditure, profit and strategic growth. In addition, PRC government has undertaken to strive to peak its CO₂ emissions by 2030 and to achieve carbon neutrality by 2060, if possible, and to increase the non-fossil fuel share of all energy to around 25% by 2030 while reducing the CO₂ emissions by no less than 65% as compared with 2005. China has officially launched a national carbon exchange in 2021, and some of our power plants supporting our operation have been identified to be subject to emission control. It is expected that the scope of industries subject to such control will expand, with most of our domestic subsidiaries may be recognized as emission-control enterprises, which change could have certain effect on our business 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, some of which are deemed to be subject to a high degree of political risk. The operations in these countries and regions may experience debt divergence, changes in taxation and foreign exchange controls, legal litigations, deterioration in compliance management environments or public security, public health risk, market fluctuations and oil and gas price fluctuations, changes in political situations and sanctions rules and policies, investment decision risk, safety production and equipment integrity risk. The occurrence of any of these conditions could disrupt or curtail our operations or development activities. These events may also 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 by those projects.

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 holders of the H shares or ADSs.

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 the value of our assets (generally based on the average quarterly value of our assets during the taxable year) produce or are held for the production of passive income. Depending upon the value of our assets, which may be determined based, in part, on the market price of our H shares or ADSs (which may be volatile), and the nature of our assets and income over time, we could be classified as a 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, 2021 and do not anticipate becoming a PFIC in the current taxable year 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 expend 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 gains 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 gains or distributions are 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.”

Our operations may be adversely affected by cyber-attacks or similar disruptions.

We have established cybersecurity control schemes and cybersecurity operation and information system emergency response regime, built a cybersecurity risk management and control information platform, and devoted significant resources to the protection of our digital infrastructure and information system against cyber-attacks. If our systems against cyber-security risk prove to be ineffective, we could be adversely affected by, among other things, disruptions to our business operations, and loss of proprietary information, including intellectual property, financial information and employer and customer data, injury to people, property, environment and reputation. As cyber-security attacks continue to evolve, we may be required to expend additional resources to enhance our protective measures against cyber-security breaches.

COVID-19 pandemic could materially and adversely affect our business.

In 2021, the global pandemic of COVID-19 continues to spread. Due to its unique nature and continuous spread, this pandemic and the public prevention measures taken in relation thereto have had and may continue to have certain adverse impacts on our procurement for raw materials, the conduct of our operation, the demand for our end products and on our operating activities, including disruptions to our work scheduling, which, in aggregate, may have significant impacts on our business, financial condition and results of operations. We have taken measures in response to the outbreak, including the adoption of robust, strict and standardized pandemic prevention and control system. At present, domestic COVID-19 is generally under control within China, however, unpredictable factors still exist in terms of COVID-19 global trend. The extent to which this pandemic impacts our results will depend on future developments of COVID-19, including new actions taken to contain the pandemic or treat its impact, among others.

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. There are some uncertainty and instability in the current global economy and pandemic control. The Chinese economy has entered a new stage of development and is progressing towards high quality development, guided by its “carbon peak” and “carbon neutrality” strategic objectives. Our operations may also be adversely affected by factors such as trade protection policies adopted by other countries and increase in import activities facilitated by regional trade agreements.

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 macro-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 cyclical nature 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 accelerated the removal of restrictions on the right to use imported crude oil. This development may lead to excessive refining capacity in China and intensify competition among local refineries. The Chinese crude oil and refined oil product markets are becoming increasingly dynamic and internationalized with implementation of tariff concessions and relaxation of market restrictions. As the wholesale market of refined oil products previously dominated by PetroChina Company Limited and us opens up, we are facing stronger competition from new players and imported products. 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. We are also expected to face competition in both domestic and overseas refined oil products and petrochemical product market as a result of our domestic and international competitors' increasing production capacity. In addition, the competition among market participants on overseas premium resources, construction of LNG stations and pipeline and storage facilities, development of high-end markets and construction of terminal projects have intensified since PipeChina started its business operation and after the market of natural gas pipeline network, LNG station and gas storage facilities opened up. 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 ancillary 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 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 are likely to compete with our business.

Sinopec Group Company has interests in certain businesses, such as petrochemical and overseas exploration and development, which compete or are likely to compete, either directly or indirectly, with our businesses. To avoid adverse effects that may be 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 competing 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, including Iran, Syria and Sudan. We currently do not believe that any existing investments of Sinopec Group Company will result in any direct sanctions imposed by OFAC. However, we cannot predict the interpretation or implementation of sanction 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 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 in the case of Iran, or whether sanction scope will be modified or updated, or if any other countries or regions will be incorporated into the sanction list, or the impact that such actions may have on Sinopec Group Company and us. If it becomes the target of U.S. sanctions, Sinopec Group Company may be prohibited from conducting business activities in the United States or with individuals or entities in the United States, and the transactions involving our securities in the United States will also be significantly affected. In addition, certain U.S. state and local governments and institutions impose 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 withdraw their investment, in us 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 undertaken by Sinopec Group Company or its affiliates in countries that are the subject of U.S. sanctions, we may be subject to negative publicity, which may distract management attention, consume internal resources and affect investors’ perception of our Company.

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 North America, located at 3050 Post Oak Blvd, Suite 800, Houston, 77056, with telephone number of +1 (713) 544 8888 and fax number of +1 (713) 544 8878, as our agent for service of processes for actions brought under the U.S. securities laws. The SEC maintains an Internet website that contains reports, proxy and information statements, and other information regarding us that have been filed electronically with the SEC, which can be accessed at <https://www.sec.gov>. Information about the Company and documents the Company submitted to the SEC are available on our investor relations website: <http://spc.sinopec.com/spc/en/investor/>.

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 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;
- production and sales of petrochemical products;

- the operation in relation to hydrogen, the production, storage, transportation and sales of hydrogen, production and sales of hydrogen production, hydrogen refueling and hydrogen storage facilities and other hydrogen energy business and related services; and
- power supply business, vehicle battery charging and swapping, solar energy, wind energy and other new energy power generation, operation of new energy vehicle charging facilities, battery sales, sales of new energy vehicle battery swap facilities and other electric energy businesses and related services.

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.

From July 8, 2015 to July 7, 2016, Sinopec Group Company increased its shareholding in the Company through acquisitions of our ordinary shares on the stock market in its own name or through other concerting parties, by way of acquiring 72,000,000 A shares. Immediately following the shareholding increase, Sinopec Group Company directly and indirectly held 86,345,821,101 shares of the Company.

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, Sinopec Natural Gas Limited Company, our wholly-owned subsidiary ("Natural Gas Company"), 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 RMB22.8 billion in cash. Upon completion of the capital injection, China Life, SDIC Communications and the Natural Gas Company held 43.86%, 6.14% and 50% equity interest in Sichuan-to-East China Pipeline Co., respectively.

On April 27, 2017, our board of directors unanimously approved the proposal of the acquisition of equity interest in Shanghai SECCO Petrochemical Company Limited ("Shanghai SECCO") by Gaoqiao. On October 26, 2017, Gaoqiao purchased 50% equity interest in Shanghai SECCO from BP Chemicals East China Investment Limited with a cash consideration of RMB10,135 million. Before the acquisition, we and one of our subsidiaries held 30% and 20% equity interest in Shanghai SECCO, respectively. Upon completion of the acquisition, we, together with our subsidiaries, hold 100% equity interest of Shanghai SECCO, which became a subsidiary of us.

Following the instruction by the State-owned Assets Supervision and Administration Commission of the State Council, on August 9, 2018, Sinopec Group Company gratuitously transferred 1,241,721,854 A shares of the Company to Beijing Chengtong Financial Control Investment Co., Ltd., and 1,241,721,854 A shares to Guoxin Investment Co., Ltd. Upon the completion of such transfers, Sinopec Group Company directly and indirectly held 83,862,377,393 shares of the Company.

In July 2020, we and certain of our subsidiaries entered into transactions with PipeChina to sell the ownership of certain oil and gas pipeline assets and other facilities to PipeChina in exchange for approximately 14% of registered capital of, and cash paid by, PipeChina as consideration (the “Pipeline Transactions”). The Pipeline Transactions closed on September 30, 2020. In accordance with the arrangements of the Pipeline Transactions, we and PipeChina have entered into agreements for the continuous use of relevant oil and gas pipelines and other facilities in the future on the terms and subject to conditions set forth therein.

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, 2021, we held 265 production licenses in China, with an aggregate acreage of 36,480 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 RMB1,000 per square kilometer.

As of December 31, 2021, we held 178 exploration licenses in China for various blocks in which we engaged in exploration activities, with an aggregate acreage of approximately 390 thousand square kilometers.

As of December 31, 2021, our overseas subsidiary held one production license, with an acreage of 322.57 square kilometers. It currently does not have exploration licenses. Our overseas equity-accounted investments held 74 production licenses, with an aggregate acreage of 5,588.9 square kilometers, and no exploration license.

Properties

We currently operate 249 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 2,554 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 2021, Shengli production field produced approximately 166 million barrels of crude oil and 22.13 billion cubic feet of natural gas, with an average daily production of 465.3 thousand BOE.

As of December 31, 2021, the total acreage of our oil and gas producing fields and blocks in China was 17,135 square kilometers, including 10,021 square kilometers of developed acreage, all of which were net developed acreage; and 7,114 square kilometers of gross undeveloped acreage, all of which were net undeveloped acreage.

As of December 31, 2021, the total acreage of our oil and gas producing fields and blocks of our overseas subsidiary was 322.57 square kilometers, including 169.21 square kilometers of developed acreage, of which 110 square kilometers were net developed acreage; and 153.36 square kilometers of gross undeveloped acreage, of which 31.8 square kilometers were net undeveloped acreage.

As of December 31, 2021, the total acreage of our oil and gas producing fields and blocks of our overseas equity-accounted investments was 1,683.4 square kilometers, including 1,683.4 square kilometers of developed acreage, of which 1,683.4 square kilometers were net developed acreage; and none gross undeveloped acreage.

Oil and Natural Gas Reserves

As of December 31, 2021, our estimated proved reserves of crude oil and natural gas in China were 2,825 million BOE (including 1,416.64 million barrels of crude oil and 8,449.26 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 334.98 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.

We established reasonable certainty of our proved reserves estimates by using the performance methods, the volumetric methods, analogy, or a combination of multiple methods. Performance methods include, but are not be limited to, decline curve analysis, material balance and reservoir simulation, which utilize extrapolations of historical production available. The volumetric method, analogy, or a combination of such methods were used where historical performance data was inadequate to establish a definitive trend or where the use of production performance data as the basis for reserves estimates was considered inappropriate. All proved undeveloped reserves were estimated by volumetric method and analogy.

The following tables set forth our proved developed and undeveloped crude oil and natural gas reserves by region as of December 31, 2021.

Crude Oil Proved Reserves	As of December 31, 2021 (in millions of barrels)
Developed Subsidiaries	
China	1,291
Shengli	961
Others	330
Overseas	24
Subtotal	1,315
Equity-accounted investments	
China	—
Overseas	263
Subtotal	263
Total Proved Developed	1,578
Undeveloped Subsidiaries	
China	125
Shengli	17
Others	108
Overseas	—
Subtotal	125
Equity-accounted investments	
China	—
Overseas	46
Subtotal	46
Total Proved Undeveloped	171
Total Crude Oil Proved Reserves	1,749

Natural Gas Proved Reserves	As of December 31, 2021 (in billions of cubic feet)
Developed Subsidiaries	
China	6,734
Puguang	1,582
Fuling	1,529
Others	3,623
Overseas	—
Subtotal	6,734
Equity-accounted investments	
China	—
Overseas	6
Subtotal	6
Total Proved Developed	6,740
Undeveloped Subsidiaries	
China	1,715
Puguang	64
Fuling	99
Others	1,552
Overseas	—
Subtotal	1,715
Equity-accounted investments	
China	—
Overseas	1
Subtotal	1
Total Proved Undeveloped	1,716
Total Natural Gas Proved Reserves	8,456

As of December 31, 2021, approximately 171.66 million barrels of our crude oil proved reserves and 1,715.59 billion cubic feet of our natural gas proved reserves were classified as proved undeveloped reserves in China and overseas. 2.23 million barrels of crude oil and 648.04 billion cubic feet natural gas proved reserves in China have been classified as proved undeveloped for more than five years, mainly under Sinopec Shanghai Offshore Petroleum Company, one of our subsidiaries. The reason that such proved reserves had remained undeveloped for more than five years was that offshore oil and gas production sites generally had a longer construction period, which was further protracted due to the COVID-19 pandemic. The Company is currently optimizing the development plan for such reserves.

During 2021, a total of 319 wells were drilled in China and 123 wells were drilled overseas.

During the year of 2021, our proved crude oil reserves and proved crude oil reserves of our equity method investees increased by 207.96 million barrels, as a result of:

- an upward revision of previous estimate by 241.83 million barrels, comprising an upward revision of 297.16 million barrels due to increased crude oil price, an upward revision of 14.99 million barrels due to infill drilling, an upward revision of 25.61 million barrels due to the extension of our existing licenses, and an upward revision of 6.60 million barrels due to improved production performance, partially offset by a downward revision of 102.53 million barrels due to increase in cost;
- an increase of 127.76 million barrels by reason of the adoption of technologies and methods such as gas displacement and chemical displacement;
- an increase of 111.66 million barrels due to the extension of and new discoveries in the Chengdao oil field and Shunbei oil and gas field; and
- a decrease of 273.29 million barrels due to production activities.

During the year of 2021, our proved natural gas reserves and proved natural gas reserves of our equity method investees increased by 265.62 billion cubic feet, as a result of:

- a decrease of 1,111.21 billion cubic feet due to production activities;

- an upward revision of previous estimate by 662.30 billion cubic feet of proved natural gas reserves, comprising an increase of 149.59 billion cubic feet resulting from an increase in oil and gas price, an increase of 227.67 billion cubic feet due to improved production performance, an increase of 56.65 billion cubic feet due to the addition of compression for gas wells, an increase of 120.01 billion cubic feet due to the adoption of refracturing, and an increase of 155.45 billion cubic feet due to infill drilling, partially offset by a decrease of 47.07 billion cubic feet due to increase in cost;
- an increase of 36.28 billion cubic feet by reason of the adoption of improved recovery techniques; and
- an increase of 678.25 billion cubic feet due to the extension and new discoveries in Puguang gas field, Weirong gas field and Yongchuan gas field.

Noteworthy changes in proved undeveloped reserves during the year of 2021 are as follows:

- our proved undeveloped crude oil reserves increased by 18.44 million barrels, resulting from an upward revision of 1.81 million barrels due to the change of our drilling plan, an increase of 5.33 million barrels of proved undeveloped crude oil reserves due to contract extension, and an increase of 68.42 million barrels of proved undeveloped crude oil reserves due to extension, partially offset by a conversion of 53.51 million barrels from proved undeveloped crude oil reserves to proved developed reserves due to our production activities and a downward revision of 3.61 million barrels to a cut-back of our drilling plan for cost control purposes; and
- our proved undeveloped natural gas reserves decreased by 109.43 billion cubic feet, resulting from a conversion of 314.93 billion cubic feet from proved undeveloped natural gas reserves to proved developed natural gas reserves due to our productions activities and a downward revision of 27.73 billion cubic feet as we scaled back our drilling activities for cost control purposes, partially offset by an increase of 233.23 billion cubic feet of proved undeveloped natural gas reserves due to extension.

Total capital expenditure incurred in converting proved undeveloped reserves into proved developed reserves amounted to RMB8.53 billion, including RMB7.77 billion and RMB0.76 billion incurred in connection with our operations in China and overseas, respectively, in 2021.

Our reserves estimation is managed by a two-tier management system. The Oil and Natural Gas Reserves Management Committee, or the RMC, at our headquarters level, organizes, coordinates and oversees the overall reserves estimation, and is in charge of major issues in reserves estimation and approving the reserves estimation report of our company. Each of our Branches has a reserves management committee that manages and coordinates the reserves estimation process, organizes evaluators to conduct reserves estimation, reviews and inspects the evaluation materials and results at the branch level, and reports to the RMC of the Company.

Our RMC consists of our senior managements, the senior management of related divisions at our headquarters level, our exploration and production institution and our Branches in each oil field. The current Chairman of our RMC, Mr. Liu Hongbin, Senior Vice President of the company, has over 30 years of experience in the oil and gas industry. 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, development 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. Technical experts in exploration, development and economics divisions of our Branches in each oil field collectively prepare the initial report on reserves estimation. The RMC at production bureau level then review to ensure the qualitative and quantitative compliance with technical guidance and accuracy and reasonableness of the reserves estimation. 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 2021, we produced an average of 1,230.03 thousand BOE per day in China, of which approximately 55.6% was crude oil and 44.4% was natural gas. We produced an average of 84.3 thousand BOE per day overseas, of which 98% was crude oil and 2% was natural gas.

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The following tables set forth our average daily production of crude oil and natural gas for the years ended December 31, 2019, 2020 and 2021. The production of crude oil includes condensate.

	Year Ended December 31,		
	2019	2020	2021 ⁽¹⁾
	(in thousands of barrels)		
Average Daily Crude Oil Production			
China	683	682	684
Subsidiaries	683	682	684
Shengli	455	454	455
Others	228	228	229
Overseas	95	84	83
Subsidiary	19	17	14
Equity-accounted investments	76	67	69
Total Crude Oil Production	778	766	767

Note:

(1) Includes 0.49 thousand BOE of crude oil consumed in the production.

	Year Ended December 31,		
	2019	2020	2021 ⁽¹⁾
	(in millions of cubic feet)		
Average Daily Natural Gas Production			
China	2,862	2,921	3,277
Subsidiaries	2,862	2,921	3,277
Puguang	664	598	651
Fuling	613	647	695
Others	1,585	1,676	1,931
Overseas	9	9	9
Equity-accounted investments	9	9	9
Total Natural Gas Production	2,871	2,930	3,286

Note :

(1) Includes 163.59 million cubic feet of natural gas consumed in the production.

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, 2019, 2020 and 2021.

	Weighted Average	China (RMB)	Overseas ⁽¹⁾
For the year ended December 31, 2021			
Average petroleum lifting cost per BOE	113.91	108.42	193.94
Average realized sales price			
Per barrel of crude oil	415.85	411.93	448.4
Per thousand cubic feet of natural gas	40.61	40.61	—
For the year ended December 31, 2020			
Average petroleum lifting cost per BOE	105.28	101.67	154.41
Average realized sales price			
Per barrel of crude oil	269.85	266.86	294.12
Per thousand cubic feet of natural gas	37.33	37.33	—
For the year ended December 31, 2019			
Average petroleum lifting cost per BOE	117.0	110.32	164.49
Average realized sales price			
Per barrel of crude oil	406.0	400.37	445.96
Per thousand cubic feet of natural gas	37.56	37.56	—

- (1) The exchange rates we used for overseas data in this table were exchange rates for each year ended December 31, 2019, 2020 and 2021, which were RMB6.8985 to US\$ 1.00, RMB6.8976 to US\$ 1.00 and RMB6.45 to US\$1.00, respectively.

Exploration and Development Activities

In 2021, focusing on exploration for large-scale quality reserves, we pressed ahead with high quality exploration and profit-oriented development, making efforts to stabilize crude oil production, increase gas production, reduce costs and improve efficiency, and completed the construction project in the West Sichuan Gas Field, and started the construction of a national-level demonstration area for shale oil in the Jiyang Continental-phase Fault Depression Lake Basin.

The following table sets forth the number of our exploratory and development wells, including a breakdown of productive wells and dry wells we drilled during the years ended December 31, 2019, 2020 and 2021.

Number of Drilled Wells	As of December 31,											
	2019				2020				2021			
	Exploratory		Development		Exploratory		Development		Exploratory		Development	
	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry	Productive	Dry
China	350	174	2,098	5	383	136	2,015	3	363	129	1,828	4
Subsidiaries	350	174	2,098	5	383	136	2,015	3	363	129	1,828	4
Shengli	195	81	1,168	4	204	64	1,080	2	170	58	944	2
Others	155	93	930	1	179	72	935	1	193	71	884	2
Overseas	3	1	99	—	2	—	100	—	2	1	114	—
Subsidiaries	—	—	—	—	—	—	4	—	—	—	2	—
Equity-accounted investments	3	1	99	—	2	—	96	—	2	1	112	—
Total	353	175	2,197	5	385	136	2,115	3	365	130	1,942	4

The following table sets forth the number of wells being drilled by us as of December 31, 2019, 2020 and 2021:

Number of Drilling Well	As of December 31,											
	2019				2020				2021			
	Gross		Net		Gross		Net		Gross		Net	
	Exploratory	Development	Exploratory	Development	Exploratory	Development	Exploratory	Development	Exploratory	Development	Exploratory	Development
China	117	177	117	176	92	212	92	212	108	201	108	201
Subsidiaries	117	177	117	176	92	212	92	212	108	201	108	201
Shengli	60	20	60	20	29	52	29	52	33	55	33	55
Others	57	157	57	156	63	160	63	160	75	146	75	146
Overseas	—	—	—	—	2	—	2	—	—	123	—	62
Subsidiaries	—	—	—	—	—	—	—	—	—	3	—	1
Equity-accounted investments	—	—	—	—	2	—	2	—	—	120	—	61
Total	117	177	117	176	94	212	94	212	108	324	108	263

The following tables set forth the number of our productive wells for crude oil and natural gas as of December 31, 2021, as compared to December 31, 2020 and 2019:

Productive Wells for Crude Oil	As of December 31,					
	2019		2020		2021	
	Gross	Net	Gross	Net	Gross	Net
China	52,112	52,112	53,240	53,240	53,851	53,851
Subsidiaries	52,112	52,112	53,240	53,240	53,851	53,851
Shengli	33,819	33,819	34,572	34,572	34,991	34,991
Others	18,293	18,293	18,668	18,668	18,860	18,860
Overseas	7,248	2,855	7,055	2,752	5,534	2,372
Subsidiaries	28	14	28	10	30	11
Equity-accounted investments	7,220	2,841	7,027	2,742	5,504	2,361
Total	59,360	54,967	60,295	55,992	59,385	56,223

	As of December 31,					
	2019		2020		2021	
	Gross	Net	Gross	Net	Gross	Net
Productive Wells for Natural Gas						
China	6,420	6,378	6,976	6,928	7,539	7,489
Subsidiaries	6,420	6,378	6,976	6,928	7,539	7,489
Puguang	61	61	67	67	79	79
Fuling	482	482	632	632	779	779
Others	5,877	5,835	6,277	6,229	6,681	6,631
Total	<u>6,420</u>	<u>6,378</u>	<u>6,976</u>	<u>6,928</u>	<u>7,539</u>	<u>7,489</u>

Refining

Overview

In 2021, our refinery throughputs were approximately 255.28 million tonnes. We produce a full range of refined oil products. The production of our principal refined oil products for the years ended December 31, 2019, 2020 and 2021 is as follows:

	Year Ended December 31,		
	2019	2020	2021
	(in million tonnes)		
Gasoline	62.77	57.91	65.21
Diesel	66.06	63.21	59.85
Kerosene	31.16	20.38	21.15
Light chemical feedstock	39.78	40.22	45.41
Liquefied petroleum gas	12.57	11.61	12.72
Fuel oil	1.95	7.71	11.31

Gasoline and diesel are our largest revenue-generating products, and are sold mostly through Sinopec Marketing Co., Ltd., our subsidiary, 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 are sold in China to a wide variety of industrial and agricultural customers, and a small amount is exported.

Refining Facilities

Currently we operate 29 refineries in China. As of December 31, 2021, our comprehensive processing capacity of oil refining was 287.25 million tonnes per annum.

The following table sets forth our total comprehensive processing capacity per annum of crude oil and refinery throughputs as of and for the years ended December 31, 2019, 2020 and 2021.

	As of and for the year ended December 31,		
	2019	2020	2021
Comprehensive processing capacity of oil refining (million tonnes per annum) ⁽¹⁾	271.65	283.25	287.25
Refinery throughputs (million tonnes) ⁽²⁾	248.5	236.91	255.28

(1) The comprehensive processing capacity of oil refining 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 2021, our gasoline yield was 25.55%, diesel yield was 23.45%, kerosene yield was 8.28%, and light chemical feedstock yield was 17.79%. For the years ended December 31, 2019, 2020 and 2021, our overall yield for all refined oil products at our refineries was 94.98%, 94.77% and 94.65%, respectively.

The following table sets forth the comprehensive processing capacity per annum as of December 31, 2021 of each of our refineries with the comprehensive supporting of 8 million tonnes or more per annum.

Refinery	Comprehensive Processing Capacity of oil refining as of December 31, 2021 (in million tonnes per annum)
Zhenhai	27
Maoming	20
Jinling	18
Shanghai	16
Zhongke	15
Fujian	14
Yangzi	13.5
Qilu	13
Guangzhou	12.75
Tianjin	12.5
Qingdao Refining & Chemical	12
Gaoqiao	11.3
Yanshan	10
Luoyang	10
Hainan	9.2
Changling	8
Shijiazhuang	8
Jiujiang	8
Anqing	8

In 2021, the Zhenhai Refining & Chemical revamping project for ethylene feedstock adoptability was put into operation. Newly added comprehensive processing capacity of oil refining totaled 4 million tonnes/year.

Source of crude oil

In 2021, approximately 89.3% of the crude oil required for our refinery business was imported.

Marketing of Refined Oil Products

Overview

We operate the largest sales and distribution network for refined oil products in China. In 2021, we distributed and sold approximately 171.31 million tonnes of gasoline, diesel and kerosene domestically. Most of the refined oil products sold by us are produced internally. In 2021, approximately 72.72% of our gasoline sales volume and approximately 79.95% 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 2019, 2020 and 2021.

	As of December 31,		
	2019	2020	2021
Total sales volume of refined oil products (in million tonnes)*	254.95	217.91	220.79
Domestic sales volume of refined oil products (in million tonnes)	184.45	167.99	171.31
Retail	122.54	113.19	114.30
Wholesale and Distribution	61.91	54.80	57.01
Average annual throughput of service stations (in tonnes per station)	3,992	3,686	3,720

* The total sales volume of refined oil products includes the amount of refined oil marketing and trading sales volume.

	As of December 31,		
	2019	2020	2021
Total number of service stations under Sinopec brand	30,702	30,713	30,725
Self-operated service stations	30,696	30,707	30,725

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 2021, we sold approximately 114.30 million tonnes of gasoline, diesel and kerosene through our retail network, representing approximately 66.72% 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.

Wholesale and Distribution

In 2021, we sold approximately 57.01 million tonnes of refined oil products, including 13.91 million tonnes of gasoline, 27.64 million tonnes of diesel and 15.46 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 331 storage facilities with a total capacity of approximately 18.0 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 and distributor in China, with our petrochemical production plants located in economically developed regions such as central, eastern and southern China. We produce and distribute a full range of chemical products including intermediate petrochemicals, synthetic resins, synthetic fiber monomer and polymers, synthetic fibers and synthetic rubber. Synthetic resins, synthetic fibers, and synthetic rubber comprise a significant majority of our external sales. Synthetic fiber monomer 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 upstream and downstream with our refining businesses, which supply a significant portion of our naphtha and light hydrocarbons feedstock. Due to the high demand in China, we sell most 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, 2021 was 13.548 million tonnes per annum. In 2021, we produced 13.38 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.

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, 2021 for our principal intermediate chemical products.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Production
Ethylene	13,548	13,380	Yanshan, Shanghai, Yangzi, Qilu, Maoming, Guangzhou, Tianjin, Zhongyuan, Shanghai SECCO, BASF-YPC*, Fujian*, Sinopec Sabic (Tianjin)*, Zhongke, Zhenhai, Sino-Korean (Wuhan)*, Gulei* and Great Wall EC*
Propylene	11,867	12,052	Yanshan, Shanghai, Yangzi, Qilu, Maoming, Guangzhou, Tianjin, Zhongyuan, Shanghai SECCO, Zhongke, BASF-YPC*, Jinling, Anqing, Qingdao, Hainan, Fujian*, Sinopec Sabic (Tianjin)*, Zhenhai, Sino-Korean (Wuhan)*, Gulei* and Great Wall EC*
Benzene	5,925	4,698	Yanshan, Shanghai, Yangzi, Qilu, Guangzhou, Zhenhai, Tianjin, Luoyang, Shanghai SECCO, Zhongke, BASF-YPC*, Fujian*, Maoming, Hainan, Sino-Korean (Wuhan)*, Jinling and Gulei*
Styrene	3,250	2,751	Zhenhai, Yanshan, Qilu, Guangzhou, Maoming, Shanghai SECCO, Anqing, Hainan, BASF-YPC*, Sinopec Sabic (Tianjin)*, Gulei*, Sino-Korean (Wuhan)* and Baling
Para-xylene	5,834	5,256	Shanghai, Yangzi, Tianjin, Luoyang, Zhenhai, Jinling, Fujian* and Hainan
Phenol	758	814	Yanshan, Gaoqiao* and Sinopec Sabic (Tianjin)*

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

Synthetic Resins

We are the largest producer of 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, 2021.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Production
Polyethylene	9,039	8,240	Yanshan, Shanghai, Yangzi, Qilu, Maoming, Guangzhou, Tianjin, Zhongyuan, Shanghai SECCO, Zhongke, BASF-YPC*, Fujian*, Sinopec Sabic (Tianjin)*, Zhenhai, Sino-Korean (Wuhan)* and Great Wall EC*
Polypropylene	9,257	9,044	Yanshan, Shanghai, Yangzi, Qilu, Guangzhou, Maoming, Tianjin, Zhongyuan, Shanghai SECCO, Zhongke, Jingmen Branch, Fujian*, Sinopec Sabic (Tianjin)*, Zhenhai, Sino-Korean (Wuhan)*, Great Wall EC*, Luoyang, Jiujiang, Jingmen, Hainan, Beihai, Shijiazhuang and Gulei*
Polyvinyl chloride	600	281	Qilu
Polystyrene	698	677	Maoming, Guangzhou, Shanghai SECCO and BASF-YPC*
Acrylonitrile butadiene styrene	200	187	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.

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, 2021 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	2,819	1,817	Shanghai, Yangzi, Yizheng and Luoyang
Ethylene glycol	4,399	2,574	Yanshan, Shanghai, Yangzi, Tianjin, Maoming, Zhongke, Fujian*, BASF-YPC*, Sinopec Sabic (Tianjin)*, Zhenhai, Gulei* and Sino-Korean (Wuhan)*
Acrylonitrile	990	958	Anqing, Qilu Koruhr* and Shanghai SECCO
Caprolactam	949	814	Baling
Polyester	3,378	2,862	Shanghai, Yizheng, Tianjin and Luoyang

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

Synthetic Fibers

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, 2021.

	Our Rated Capacity (thousand tonnes per annum)	Our Production (thousand tonnes)	Major Plants of Production
Polyester fiber	1,531	1,213	Yizheng, Shanghai, Tianjin and Luoyang
Acrylic fiber	265	137	Shanghai, Anqing and Qilu

Synthetic Rubbers

We are the largest manufacturer of synthetic rubbers in China. Our principal synthetic rubbers products are cis-polybutadiene rubber, styrene butadiene rubber, or SBR, styreneic block copolymers (SBCs) thermoplastic elastomer, isobutadiene isoprene rubber, or IIR (brominated IIR included), and ethylene propylene rubber.

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, 2021 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	450	349	Yanshan, Qilu, Maoming, Yangzi and Gaoqiao
Styrene butadiene rubber	460	347	Qilu, Yangzi, Gaoqiao, Yanshan and Baling
Styrene-butadiene-styrene thermoplastic elastomers	440	294	Yanshan, Maoming, Gulei* and Baling
Isobutylene isoprene rubber	125	13	Yanshan
Ethylene propylene rubber	75	85	Gaoqiao*

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

Marketing and Sales of Petrochemicals

The central, eastern and southern 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.

The prices of petrochemical products in China have become market-oriented. Our principal sales channels consist of (i) direct sales to domestic and foreign large- and medium-sized manufacturing enterprises, which account for more than 77.9% of our direct sales, (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 launched an e-commerce channel of petrochemical products and improved customer experience.

Competition

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.

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 and distributors in the chemicals market. We adopt the strategy of “one product one policy, one customer one case” to meet customers’ needs, coordinate production, sales, research and application, produce targeted solutions based on client’s needs, provide customized services, and strive to create value for customers. Our petrochemical production facilities’ proximity to customers has given us significant regional advantages over our competitors, resulting in lower transportation costs and better competitiveness of our products.

Patents and Trademarks

In 2021, we were granted 4,868 patents in China and overseas. As of December 31, 2021, we owned a total of 43,563 patents in China and overseas.

In 2021, we had 45 PRC material trademarks and 11 overseas material trademarks approved internally.

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

In 2021, we did not source any of our refinery throughputs of crude oil from Iran. Based on our internal reports and statistics, no revenue or net profit was recorded from trading activity with Iranian companies.

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 and profits from these business activities accounted for 0.021% and 0.43% of its total unaudited sales revenue and profits, respectively.

Regulatory Matters

Overview

China’s petroleum and petrochemical industry has seen significant deregulation 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; and
- Amending Guiding Catalogue of Petroleum and Chemical Industry Structural Adjustment and Petrochemical Industry Layout Planning Plan and 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.

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 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. According to the law, MOFCOM is also responsible for supervising, approving and record-filing of foreign investment (excluding financial investment) of domestic enterprises.

Ministry of Natural Resources (MNR)

The MNR (formerly known as the Ministry of Land and Resources, or MLR) is responsible for issuing the licenses that are required to explore and produce crude oil and natural gas in China. In March 2018, according to the Institutional Reform Plan of the State Council, the responsibilities of the Ministry of Land and Resources were integrated to form the Ministry of Natural Resources of the People's Republic of China.

To operate business in China, we and all of our PRC subsidiaries shall register with the State Administration of Market Regulation and obtain a business license with the scope of our/its business set forth therein, and obtain approvals and permits from relevant government authorities for certain specialized business activities. The table below sets forth the permits and approvals we and our PRC subsidiaries need to obtain that are material to our business.

Permits/Approvals	Underlying Business Activities	Regulatory Authorities
Exploration Permit	Exploration of crude oil and natural gas	Authorities of Geology and Mineral Resources (Ministry of Natural Resources and its counterparts)
Mining Permit	Mining, development and production of crude oil, natural gas and geothermal resources	Authorities of Geology and Mineral Resources (Ministry of Natural Resources and its counterparts)
Work Safety Permit for Non-coal Mines	Mining and production (pursuant to relevant work safety requirements) in non-coal mines	Authorities of Work Safe Regulation and Supervision (Ministry of Emergency Managements and its counterparts)
Manufacturing License for Industrial Products	Manufacture of certain industrial products	Authorities of Industrial Products Manufacture Licensing (State Administration of Market Regulation and its counterparts)
Approval for Refined Oil Retailing Business	Retailing business for Refined Oil (for petrol station)	Ministry of Commerce and its counterparts
Gas Business Permits	Gas-related business operation	Gas-regulatory and Supervision Department of Local Government (county level above)
Registration for Manufacturer of Hazardous Chemicals	Manufacture of Hazardous Chemicals	Authorities of Work Safe Regulation and Supervision (Ministry of Emergency Managements and its counterparts)
Registration for Hazardous Chemicals		
Work Safety Permit for Hazardous Chemicals		
Business Permits for Hazardous Chemicals	Operation of business in relation to Hazardous Chemicals (including storage thereof)	Authorities of Work Safe Regulation and Supervision (Ministry of Emergency Managements and its counterparts)
Pollution Permit	Emission of pollutant to the environment	Authorities of Environment Protection
Urban Drainage License	Emission of wasted water to urban drainage facilities	Authorities of Urban Drainage (Ministry of Water Resources and its counterparts)

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 MNR, 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 MNR 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.

Applicants for exploration licenses must first submit applications to the MNR 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 RMB100 to RMB500 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. Under the PRC laws and regulations, we are entitled for reductions and exemptions of exploration license fees for exploration in the western, offshore and northeastern regions of China.

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 MNR 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 RMB1,000 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 RMB0.4 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 RMB0.3 per cubic meter of shale gas produced and RMB0.2 per cubic meter of shale gas produced from 2016 to 2018 and from 2019 to 2020, respectively.

In March 2018, in order to promote the development and utilization of shale gas, the Ministry of Finance and the State Administration of Taxation jointly issued the Notice on the Reduction of Resource Tax on Shale Gas (Ministry of Finance No. 26 [2018]) which provides that from April 1, 2018 to March 31, 2021, a 30% reduction shall be applied to the 6% tax rate applicable to shale gas.

In June 2019, the Ministry of Finance issued the Supplemental Notice on Interim Measures for the Management of Special Funds for Renewable Energy Development (Ministry of Finance No. 298 [2019]), which cancels the fixed-rate subsidy on shale gas industry, and provides that the increased gradient subsidy shall be granted to enterprises if their production of shale gas increases over the last year, while only reduced subsidy shall be granted if the production decreases over the last year. The Notice also provides increased subsidy for the incremental production of unconventional natural gas in winter.

Price Controls on Crude Oil

According to Measures for Administration of Petroleum Products Price issued by NDRC on January 13, 2016, the crude oil price shall be determined by reference to the international market price.

Price Controls on Natural Gas

In recent years, the pace of market-oriented natural gas price reforms has accelerated significantly. In April 2015, according to the change in the price of alternative energy, NDRC unified the stock natural gas and incremental natural gas prices. In November 2015, NDRC to further liberalized the pricing of natural gas by replacing the reference ceiling price for city-gate prices of non-residential natural gas with a reference base rate. In October 2016, NDRC has relaxed the control over service prices for gas prices used for fertilizer production, determined that the relevant prices of gas storage facilities were market-oriented, and launched a trial reform of the marketization of city-gate prices in Fujian Province.

In August 2017, based on the results of the supervision and review of the pricing of natural gas pipelines, NDRC adjusted the pipeline transportation prices, in conjunction with the adjustment of the natural gas value-added tax rate. The non-residential natural gas reference city-gate prices have been reduced by RMB0.1 per cubic meter. NDRC encouraged the natural gas production and operation enterprises and users to actively enter the natural gas trading platform, and the prices of natural gas that have been openly traded on trading platforms such as the Shanghai Oil and Gas Exchange Center and Chongqing Oil and Gas Exchange Center are formed by the market. In May 2018, NDRC adjusted the price of natural gas for civil use, improved price mechanism, replaced the reference ceiling price for city-gate prices of residential natural gas with a reference base rate, and thus brought the price of residential gas in line with the price of non-resident gas.

In March 2019, NDRC issued the Notice on Adjusting the City-Gate Price (NDRC Pricing Circular No. 562 [2019]) to adjust the city-gate price based on adjustments on value-added tax applicable to natural gas with effective date on April 1, 2019. We have adjusted the sales price of natural gas to grant the benefits of the lower value-added tax rate to our customers.

Regulation of Pipelines Networks

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 (for Trial Implementation) (NDRC Pricing Circular 2142[2016]) (the “Interim Provisions”).

In August 2017, according to the Interim Provisions, after the supervision and review of the pricing of natural gas interprovincial pipelines, NDRC adjusted the prices of 13 natural gas interprovincial pipelines. Since September 1, 2017, based on the pipeline transmission prices (traffic price rate) of the Sichuan-East Gas Pipeline and Yulin-Jinan Pipeline published by the NDRC, along the transportation distance of the natural gas inlet and export, we have calculated and determined the prices of the gas transmission points for Sichuan-East Gas Pipeline and the Yulin-Jinan Pipeline and published the list of prices on our official website. We have updated the information disclosure on our website regarding the cost of operation and the maintenance expense on annual basis.

In March 2019, the NDRC issued the Notice on Adjusting the Prices of Trans-provincial Pipeline Transportation of Natural Gas (NDRC Pricing Circular No.561 [2019]) to adjust the trans-provincial pipeline transportation price of natural gas based on adjustments on the value-added tax rate applicable to natural gas with effective date on April 1, 2019. We have adjusted our trans-provincial pipeline transportation price.

In 2020, we sold certain pipeline assets to PipeChina. Pursuant to the oil and gas pipeline transportation service price policy specified by the NDRC, (i) if there exists government-specified price, such price shall be applied, and (ii) if there exists no government-specified price, the supply and demand parties shall negotiate and determine a price, or refer to the existing similar pipeline transportation rates. We negotiated with PipeChina to determine the pipeline transportation service price, among which, the natural gas and crude oil pipeline transportation service fee and LNG receiving terminal usage fee shall be priced pursuant to government policy, and refined oil pipeline transportation service fee shall be negotiated by both Parties with reference to the pricing principle applicable to natural gas pipeline transportation service fee.

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. To save social resources, if the assessed adjustment in domestic refined oil product prices is less than RMB50 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 crude oil and gas supply upon approval by relevant departments.

Jet Fuels Price

The ex-factory price of the jet fuels will be determined by the buyers and the sellers, with reference to the 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.”

Starting in 2015, qualified refineries has been allowed to use, and conduct business in connection with, imported crude oil. On December 4, 2019, Ministry of Commerce issued the Notice of Reform of “Release-Management-Service” on Crude Oil and Refined Oil Products to further open up the domestic oil and refined oil products market. Ministry of Commerce formally abolished the “Administrative Rules for Crude Oil Market” and “Administrative Rules for Refined Oil Products Market” on July 1, 2020, and promulgated the “Guidelines for the Administration of Petroleum Refined Oil Circulation Industry” on December 31, 2020. In September 2020, the State Council issued the “Decision on the Cancellation and Decentralization of a Batch of Administrative Licensing Items”, clarifying that “the approval of the wholesale and warehousing operation qualifications for petroleum refined oil will be cancelled, and the approval for the retail operation qualification of refined oil products will be delegated to the designated department of the municipal people’s government with local governments to implement territorial supervision responsibilities.” The domestic crude oil and refined oil product markets are increasingly open.

Investment

Overseas investments by central state-owned enterprises involving sensitive countries or regions or sensitive industries shall be submitted to NDRC and MOFCOM for approval, and other overseas investments by central state-owned enterprises will only need to submit a filing with NDRC and MOFCOM.

According to Measures for the Administration of Overseas Investment of Enterprises (NDRC No.11 [2017]), investments made directly, or indirectly through offshore entities controlled by the investor, involving sensitive countries or regions or sensitive industries shall be approved by the NDRC. For non-sensitive direct investments, namely investments for which the investor provide financing or guarantee, or make asset or interest investment directly, filings with NDRC or its local branches shall be made.

According to the Measures for Supervision and Administration of Overseas Investment by Central Enterprises (SASAC Decree No. 35[2017]) promulgated by the State-owned Assets Supervision and Administration Commission of the State Council, central enterprises shall establish a negative list for overseas investment under which prohibited investments and specially supervised investments shall be administered separately. Central enterprises shall not make any investments categorized as prohibited ones. The foreign investment projects listed in the special supervision category of the negative list shall be submitted to the SASAC for approval.

In accordance with the Administrative Measures for Overseas Investments (MOFCOM Order No. 3 [2014]) issued by MOFCOM, overseas investment shall be subject to approval or filing requirements of MOFCOM or its provincial counterparts based on its investment category. Overseas investments involving sensitive countries (regions) or sensitive industries shall be approved by MOFCOM. All other investments will require only a filing with MOFCOM.

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 7 to our consolidated financial statements.

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

In April 2017, the State Council issued a notice to implement the reform of the existing mineral resources income levy system, in which the existing license fees of exploration rights and production rights will be integrated into mining rights occupancy fees, and will be dynamically adjusted based on the changes in mineral product prices and economic development needs. Collection methods and standards have not yet been released.

Starting on January 1, 2018, environmental tax has been levied, with the original sewage charges being cancelled.

Starting in April 2019, the value-added tax rate has been further lowered.

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.

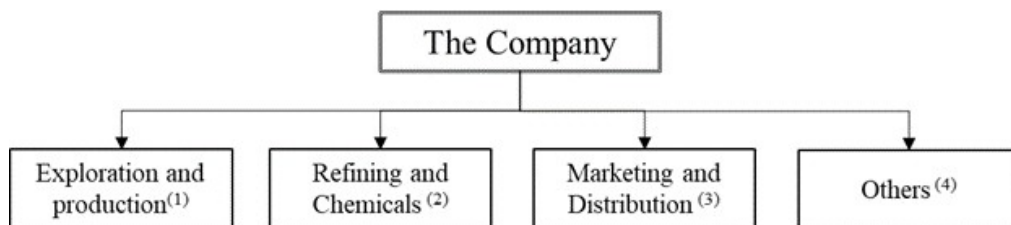
Tax Item	Tax Base	Tax Rate/Fee Rate
Enterprise income tax	Taxable income	25% effective from January 1, 2008.
Value-added tax	Revenue	9% for liquefied petroleum gas, natural gas, low-density polyethylene for production of agricultural film and fertilizers, 13% for other commodities and 6% for the taxable service. On behalf of the tax authorities, we collect value-added tax from users other than the selling price of the products when settling payments with users. The value-added tax paid by us when purchasing raw materials for production, and the payment of drilling and other engineering service fees may be deducted from the value-added tax collected by us from users.
Consumption tax	Aggregate volume sold or self-consumed	Effective from January 13, 2015, RMB1.52 per liter for gasoline, naphtha, solvent oil and lubricant, and RMB1.2 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 2017, 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 naphtha.
Resource tax	Aggregate Sales Revenue	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	RMB100 to RMB500 per square kilometer per annum.
Production license fee	Area	RMB1,000 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 payment of value-added tax and consumption tax	1%, 5% and 7%.
Education surcharge and local education surcharge	Total payment of value-added tax and consumption 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.

- (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—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 39 to our consolidated financial statements.

Like many large scale companies with businesses across industries, we conduct our business through a large number of Chinese and foreign operating entities. The chart below summarizes our business segments and identifies our significant subsidiaries, as that term is defined under Section 1-02 of Regulation S-X under the U.S. Securities Act. We combined our refining and chemicals segments in the chart below given that most of our significant subsidiaries conducting relevant businesses can be categorized under both segments. See Note 39 to our consolidated financial statements.



Notes:

- (1) Our significant subsidiary under Exploration and Production segment is Sinopec International Petroleum Exploration and Production Limited.
- (2) Our significant subsidiaries under Refining and Chemicals segments are Sinopec Great Wall Energy & Chemical Company Limited, Sinopec Yangzi Petrochemical Company Limited, Sinopec Yizheng Chemical Fibre Limited Liability Company, Sinopec Lubricant Company Limited, Sinopec Qingdao Petrochemical Company Limited, Sinopec Chemical Sales Company Limited, Sinopec Beihai Refining and Chemical Limited Liability Company, ZhongKe (Guangdong) Refinery & Petrochemical Company Limited, Sinopec Qingdao Refining and Chemical Company Limited, Sinopec Hainan Refining and Chemical Company Limited, Shanghai SECCO Petrochemical Company Limited, Sinopec-SK (Wuhan) Petrochemical Company Limited, Gaoqiao Petrochemical Company Limited, Sinopec Baling Petrochemical Co. Ltd, Sinopec Shanghai Petrochemical Company Limited, and Fujian Petrochemical Company Limited.
- (3) Our significant subsidiary under Marketing and Distribution segment is Sinopec Marketing Company Limited.
- (4) Our significant subsidiaries under Others segment are Sinopec Overseas Investment Holding Limited, China International United Petroleum and Chemical Company Limited, Sinopec Catalyst Company Limited, China Petrochemical International Company Limited, and Sinopec Kantons Holdings Limited.

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—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 those jurisdictions we have operations, and we must pay the environmental tax for pollutant emissions. Usually the environmental tax increases for each incremental amount of discharge up to a certain level. Above a certain level prescribed by the pollutant discharge permits or other standards, 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.

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 evaluation report to the Ministry of Ecology and Environment or local ecology and environment department for approval before undertaking any project with negative impact on the environment. When carrying out such projects, companies shall construct and implement environmental protection facilities and measures as required by the environmental bureau. After the completion of the construction, the projects shall be assessed according to the relevant requirements of environmental assessment, and the projects will only be permitted to operate after the assessment of its discharge treatment facilities, measures and pollutant discharge satisfactory environmental assessment and approval requirements and reporting on the national information platform for completion-based environmental protection check and acceptance of construction projects.

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 may require additional expenditure on compliance with environmental regulations. In addition, to proactively discharge our social responsibility and to demonstrate our leadership in fulfilling China's "dual carbon" goals, we intend to embrace the "Green Revolution" and the carbon neutrality objectives, and to build our competitiveness on de-carbonization.

Our environmental protection expenditures were approximately RMB9.3 billion in 2019, RMB11.4 billion in 2020 and RMB11.0 billion in 2021.

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 RMB876.7 billion of coverage on our property and plants and approximately RMB105.8 billion of coverage on our inventory. In 2021, we paid an insurance premium of approximately RMB2.242 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 RMB4 billion and a maximum of RMB2.36 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 the exploration and production activities of oil and gas 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. 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 or depreciated over time.

Engineering estimates of our oil and gas reserves are inherently imprecise and represent only approximate amounts because of the subjective judgements 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 relation to 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 provisions 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 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 judgement relating to level of sale volume, selling price, amount of operating costs and discount rate. 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, amount of operating costs and discount rate.

Impairment losses recognized for each of the three years ended December 31, 2019, 2020 and 2021 in our consolidated statement of income on long-lived assets are summarized as follows:

	Year ended December 31,		
	2019	2020	2021
	(RMB in millions)		
Exploration and production	3	8,495	2,467
Refining	256	1,923	860
Marketing and distribution	80	536	1,211
Chemicals	17	3,675	5,332
Corporate and others	—	—	165
Total*	356	14,629	10,035

* Information relating to the detailed analysis of the change in impairment losses is presented in Note 8 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. 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 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.

Measurement of expected credit losses

We measure and recognize expected credit losses, considering reasonable and supportable information about the relevant past events, current conditions and forecasts of future economic conditions. We regularly monitor and review the assumptions used for estimating expected credit losses. The changes in the impairment losses for bad and doubtful accounts of bills receivable and accounts receivable are as follows:

	Year ended December 31,		
	2019	2020	2021
	(RMB in millions)		
Balance as of January 1	606	1,848	3,860
Impairment losses recognized for the year	1,566	2,173	436
Reversal of impairment losses	(283)	(68)	(127)
Written off	(41)	(23)	(30)
Others	—	(70)	(106)
Balance as of December 31	1,848	3,860	4,033

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. Allowance for diminution in value of inventories is analyzed as follows:

	Year ended December 31,		
	2019	2020	2021
	(RMB in millions)		
Balance as of January 1	6,401	2,597	3,107
Allowance for the year	1,616	11,689	3,148
Reversal of allowance on disposal	(199)	(333)	(18)
Written off	(5,233)	(10,795)	(1,300)
Others	12	(51)	(40)
Balance as of December 31	2,597	3,107	4,897

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;
- *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

The Company completed the purchase of non-equity assets of Cangzhou branch of Sinopec Group Asset Management Co., Ltd and Beijing Orient Petrochemical Industry Co., Ltd on July 1, 2021, and Sinopec Beihai Refining and Chemical Limited Liability Company, a subsidiary of the Company, completed the purchase of non-equity assets of Beihai Petrochemical Limited Liability Company July 1, 2021. The Company has completed the purchase of non-equity assets and liabilities of Sinopec Group Asset Management Co., Ltd. and Sinopec Beijing Yanshan Petrochemical Co., Ltd. on December 1, 2021. Sinopec Yizheng Chemical Fibre Company Limited, a subsidiary of the Company, has completed the purchase of non-equity assets and liabilities of Sinopec Group Asset Management Co., Ltd. on December 1, 2021. The transactions described above have been accounted as business combination under common control, thus, the Company retroactively adjusted the relevant financial data.

Year Ended December 31, 2021 Compared with Year Ended December 31, 2020

In 2021, the Company's revenue was RMB2,740.9 billion, increased by 30.2% compared with that of 2020. That was mainly due to the good momentum of Chinese economy, increase of international crude oil price, recovery of domestic refined oil products demand and increase of chemical products prices. The Company sized the opportunity of demand recovery, optimized operation and production, promoted structural adjustment and transition and upgrading, and realized RMB94.6 billion operating profit, up by 592.3% year on year.

The following table sets forth major revenue and expense items in the consolidated statement of income for the years ended December 31, 2020 and 2021.

	Year Ended December 31,		Change from 2020 to 2021 (%)
	2020 ⁽¹⁾ (RMB in millions)	2021	
Revenue	2,104,724	2,740,884	30.2
Revenues from primary business	2,048,654	2,679,500	30.8
Other operating revenues	56,070	61,384	9.5
Operating expenses	(2,091,055)	(2,646,256)	26.6
Purchased crude oil, products and operating supplies and expenses	(1,589,821)	(2,076,665)	30.6
Selling, general and administrative expenses	(53,668)	(54,978)	2.4
Depreciation, depletion and amortization	(107,461)	(115,680)	7.6
Exploration expenses, including dry holes	(9,716)	(12,382)	27.4
Personnel expenses	(87,525)	(103,492)	18.2
Taxes other than income tax	(235,018)	(259,032)	10.2
Other operating income /(expenses), net ⁽²⁾	(7,846)	(24,027)	206.2
Operating income	13,669	94,628	592.3
Net finance costs	(9,510)	(9,010)	(5.3)
Investment income and share of profits less losses from associates and joint ventures	44,456	23,551	(47.0)
Earnings before income tax	48,615	109,169	124.6
Income tax expense	(6,344)	(23,318)	267.6
Net income	42,271	85,851	103.1
Attributable to:			
Owners of the Company	33,443	71,975	115.2
Non-controlling interests	8,828	13,876	57.2

(1) Detailed information relating to the gain on sale of certain business is presented in Note 10 to the consolidated financial statements.

(2) Other operating income /(expenses), net include impairment losses on trade and other receivables of RMB2.3 billion and RMB2.1 billion for the years ended December 31, 2021 and 2020, respectively.

Operating revenues

In 2021, the Company's revenue from primary business was RMB2,679.5 billion, representing an increase of 30.8% over 2020. This was mainly due to the price and sales volume increase in refined oil products and chemical products.

The following table sets forth our external sales volume, average realized prices and the respective rates of change from 2020 to 2021 for our major products:

	Sales Volume		Change from	Average Realized Price		Change from
	2020 (thousand tonnes)	2021	2020 to 2021 (%)	2020 (RMB per tonne)	2021	2020 to 2021 (%)
Crude oil	7,422	7,162	(3.5)	2,029	3,049	50.3
Natural gas	26,280 ⁽¹⁾	29,953 ⁽¹⁾	14.0	1,352 ⁽²⁾	1,606 ⁽²⁾	18.8
Gasoline	86,193	90,836	5.4	6,300	7,731	22.7
Diesel	77,280	78,335	1.4	4,789	5,891	23.0
Kerosene	20,828	21,270	2.1	2,635	3,772	43.1
Basic chemical feedstock	47,109	48,059	2.0	3,569	5,311	48.8
Monomer and polymer for synthetic fiber	9,743	7,010	(28.1)	4,302	6,580	53.0
Synthetic resins	17,124	17,924	4.7	7,150	8,325	16.4
Synthetic fiber	1,403	1,457	3.8	6,407	7,521	17.4
Synthetic rubber	1,364	1,289	(5.5)	7,986	11,104	39.0
Chemical fertilizer	1,181	981	(16.9)	1,950	2,797	43.4

(1) million cubic meters

(2) RMB per thousand cubic meters

Sales of crude oil and natural gas

Most crude oil and a small portion of natural gas produced by the Company were internally used for refining and chemical production, with the remaining sold to external customers. In 2021, the revenue from crude oil, natural gas and other upstream products sold externally amounted to RMB156.0 billion, representing an increase of 49.3% over 2020. The change was mainly due to increases in crude oil and natural gas prices, and the increase of natural gas sales volume.

Sales of refined petroleum products

In 2021, petroleum products (mainly consisting of refined oil products and other refined petroleum products) sold by Refining Segment and Marketing and Distribution Segment achieved external sales revenues of RMB1,535.5 billion (accounting for 56.0% of the Company's revenue), representing an increase of 30.6% over 2020, mainly due to the increase in prices and volume of refined oil products. The sales revenue of gasoline, diesel and kerosene was RMB1,243.9 billion, representing an increase of 28.5% over 2020, and accounting for 81.0% of the total sales revenue of petroleum products. Revenue of other refined petroleum products was RMB291.6 billion, representing an increase of 49.0% compared with that of 2020, accounting for 19.0% of the total sales revenue of petroleum products.

Sales of chemical products

In 2021, the Company's external sales revenue of chemical products was RMB424.8 billion, representing an increase of 31.8% over 2020, accounting for 15.5% of the Company's total revenue. This was mainly due to the increase in price and sales volume of chemical products.

Revenue from corporate and others

In 2021, our corporate and others realized operating revenue of RMB1,297.7 billion (including an operating revenue of RMB1,291.1 billion in import and export trade business), representing an increase of 48.5% over 2020. This was mainly because the sharp increase of the price and trading volume of refined petroleum products.

Operating expenses

In 2021, the Company's operating expenses was RMB2,646.3 billion, increased by 26.6% compared with that of 2020. Among the operating expenses:

Purchased crude oil, products and operating supplies and expenses were RMB2,076.7 billion, representing an increase of 30.6% over the same period of 2020, accounting for 78.5% of the total operating expenses, of which:

- crude oil purchasing expenses was RMB689.5 billion, representing an increase of 43.9% over the same period of 2020. Crude oil purchased externally used for processing in 2021 was 212.55 million tonnes (excluding the volume processed for third parties), representing an increase of 7.9% over the same period of 2020. The average cost of crude oil purchased externally was RMB3,244 per tonne, representing an increase by 33.3% over 2020.
- other purchasing expenses was RMB1,387.2 billion, representing an increase of 24.9% over the same period of 2020. This was mainly attributable to the sharp increase in international bulk raw material prices and purchasing volume increase.

Selling, general and administrative expenses totaled RMB55.0 billion, representing an increase of 2.4% over 2020.

Depreciation, depletion and amortization was RMB115.7 billion, representing an increase of 7.6% over the same period of 2020. That was mainly because that the proved reserve decreased resulting from the decrease of international crude oil prices and appreciation of RMB exchange rate in 2020, thus the depletion ratio of oil and gas assets increased, which led to the depreciation and depletion increased.

Exploration expenses, including dry holes was RMB12.4 billion, representing an increase of 27.4% compared with 2020. That was mainly due to increased investment in exploration and development to improve the quality of oil and gas assets.

Personnel expenses was RMB103.5 billion, representing an increase of 18.2% over 2020. That was due to the government's preferential policy on social insurance during the COVID-19 pandemic in 2020, which was cancelled in 2021, as well as a year-on-year increase in performance-related bonus as a reward for the significant improvement in operating profit.

Taxes other than income tax was RMB259.0 billion, representing an increase of 10.2% over the same period of 2020. That was mainly due to the increase of consumption tax resulting from the increase of production volume in gasoline and diesel.

Other operating expenses, net was RMB21.7 billion, representing an increase of RMB275.7% over the same period of 2020. That was mainly due to impact of the loss on disposal of property, plant, equipment and other non-current assets.

Operating income

In 2021, our operating income was RMB94.6 billion, representing an increase of 592.3% over the same period of 2020. That was mainly because that with the increase of international crude oil prices and steady improvement of market demand, the Company increased its processing volume and sales volumes which led to an increase in the gross profit margin of petrochemical products and significant improvement of the Company's operating results.

Earnings before income tax

In 2021, our earnings before income tax was RMB109.2 billion, representing an increase of 124.6% compared with 2020.

Income tax expense

In 2021, we recognized income tax expense of RMB23.3 billion, representing an increase of 267.6% year on year. That was mainly due to the taxable income increase as a result of good profit the Company achieved in 2021.

Net income attributable to non-controlling interests

In 2021, our net income attributable to non-controlling interests was RMB13.9 billion, representing an increase of RMB5.0 billion and 57.2% over the same period of 2020. That was mainly due to the improvement in the profits of our non-wholly owned subsidiaries.

Net income attributable to owners of the Company

In 2021, our net income attributable to our owners was RMB72.0 billion, representing a year-on-year increase of 115.2%.

Year Ended December 31, 2020 Compared with Year Ended December 31, 2019

In 2020, our total operating revenues were RMB2,104.72 billion, representing a decrease of 28.8% over 2019. Our operating income was RMB13.7 billion, representing a decrease of 84.2% over 2019.

The following table sets forth major revenue and expense items in the consolidated statement of income for the years ended December 31, 2019 and 2020.

	Year Ended December 31,		
	2019	2020 ⁽¹⁾	Change from 2019 to 2020
	(RMB in millions)		(%)
Revenue	2,957,868	2,104,724	(28.8)
Revenues from primary business	2,899,382	2,048,654	(29.3)
Other operating revenues	58,486	56,070	(4.1)
Operating expenses	(2,871,352)	(2,091,055)	(27.2)
Purchased crude oil, products and operating supplies and expenses	(2,367,533)	(1,589,821)	(32.8)
Selling, general and administrative expenses	(54,390)	(53,668)	(1.3)
Depreciation, depletion and amortization	(109,643)	(107,461)	(2.0)
Exploration expenses, including dry holes	(10,510)	(9,716)	(7.6)
Personnel expenses	(83,054)	(87,525)	5.4
Taxes other than income tax	(244,602)	(235,018)	(3.9)
Other operating income /(expenses), net ⁽²⁾	(1,620)	(7,846)	384.3
Operating income	86,516	13,669	(84.2)
Net finance costs	(10,051)	(9,510)	(5.4)
Investment income and share of profits less losses from associates and joint ventures	13,696	44,456	224.6
Earnings before income tax	90,161	48,615	(46.1)
Income tax expense	(18,054)	(6,344)	(64.9)
Net income	72,107	42,271	(41.4)
Attributable to:			
Owners of the Company	57,517	33,443	(41.9)
Non-controlling interests	14,590	8,828	(39.5)

(1) Detailed information relating to the gain on sale of certain business is presented in Note 10 to the consolidated financial statements.

(2) Other operating income /(expenses), net include impairment losses on trade and other receivables of RMB2.1 billion and RMB1.3 billion for the years ended December 31, 2020 and 2019, respectively.

Operating revenues

In 2020, revenue from primary business was RMB2,048.7 billion, representing a decrease of 29.3% over 2019. This was mainly due to decreased price and sales volume of refined oil products, decreased price of chemical products, and shrank international trading scale of crude oil and refined oil products, which was impacted by the COVID-19 outbreak and the slump in international crude oil price.

The following table sets forth our external sales volume, average realized prices and the respective rates of change from 2019 to 2020 for our major products:

	Sales Volume		Change from 2019 to 2020 (%)	Average Realized Price		Change from 2019 to 2020 (%)
	2019 (thousand tonnes)	2020 (thousand tonnes)		2019 (RMB per tonne)	2020 (RMB per tonne)	
Crude oil	6,034	7,422	23.0	3,000	2,029	(32.4)
Natural gas	27,073 ⁽¹⁾	26,280 ⁽¹⁾	(2.9)	1,562 ⁽²⁾	1,352 ⁽²⁾	(13.4)
Gasoline	92,233	86,193	(6.5)	7,387	6,300	(14.7)
Diesel	87,083	77,280	(11.3)	5,811	4,789	(17.6)
Kerosene	27,041	20,828	(23.0)	4,298	2,635	(38.7)
Basic chemical feedstock	52,007	47,109	(9.4)	4,534	3,569	(21.3)
Monomer and polymer for synthetic fiber	14,089	9,743	(30.8)	5,722	4,302	(24.8)
Synthetic resins	16,131	17,124	6.2	7,804	7,150	(8.4)
Synthetic fiber	1,370	1,403	2.4	8,438	6,407	(24.1)
Synthetic rubber	1,284	1,364	6.3	9,595	7,986	(16.8)
Chemical fertilizer	925	1,181	27.7	2,109	1,950	(7.5)

(1) million cubic meters

(2) RMB per thousand cubic meters

Sales of crude oil and natural gas

Most of crude oil and a small portion of natural gas we produced were used internally for refining and chemical production and the remaining were sold to external customers. In 2020, the total revenue from crude oil, natural gas and other upstream products that were sold externally amounted to RMB104.5 billion, representing a decrease of 5.9% over 2019. The change was mainly due to decreases in crude oil and natural gas prices.

Sales of refined petroleum products

In 2020, 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 RMB1,163.8 billion, accounting for 55.3% of our operating revenues and representing a decrease of 24.1% over 2019. The change was mainly due to the decrease in prices and volume of major products, such as gasoline, diesel and kerosene, resulting from the impact of COVID-19 and slump of international crude oil price. The sales revenue of gasoline, diesel and kerosene was RMB968.0 billion, accounting for 83.2% of the total revenue of other refined petroleum products and representing a decrease of 25.7% over 2019. The sales revenue of other refined petroleum products was RMB195.8 billion, accounting for 16.8% of the total revenue of petroleum products and representing a decrease of 15.1% over 2019.

Sales of chemical products

Our external sales revenue of chemical products was RMB322.2 billion, accounting for 15.3% of our operating revenues and representing a decrease of 25.0% over 2019. This was mainly attributable to the decrease in price of chemical products.

Revenue from corporate and others

In 2020, our corporate and others realized operating revenue of RMB890.3 billion (including an operating revenue of RMB886.4 billion in import and export trade business), representing a decrease of 39.9% over 2019. This was mainly because sales volume and prices of crude oil and refined oil products plunged as a result of COVID-19 impact.

Operating expenses

In 2020, our operating expenses were RMB2,091.1 billion, representing a decrease of 27.2% over 2019. Among the operating expenses:

Purchased crude oil, products and operating supplies and expenses were RMB1,589.8 billion, representing a decrease of 32.8% over 2019, accounting for 76.0% of the total operating expenses, of which:

- crude oil purchase expenses were RMB479.1 billion, representing a decrease of 29.7% over 2019. In 2019, the total throughput of crude oil that was purchased externally was 222.79 million tonnes (excluding the volume processed for third parties), representing a decrease of 2.6% over 2019; the average unit processing cost for crude oil purchased externally was RMB2,380 per tonne, representing a decrease of 28.4% over 2019;
- refined oil purchase expenses were RMB257.6 billion, representing a decrease of 29.4% over 2019;
- trade purchase expenses were RMB421.2 billion, representing a decrease of 42.6% over 2019; and
- other purchasing expenses were RMB431.9 billion, representing a decrease of 26.1% over 2019.

Selling, general and administrative expenses totaled RMB53.7 billion, representing a decrease of 1.3% over 2019.

Depreciation, depletion and amortization was RMB107.5 billion, representing a decrease of 2.0% over 2019. This was mainly due to the depletion ratio of oil and gas assets decreased.

Exploration expenses, including dry holes were RMB9.7 billion, representing a decrease of 7.6% over 2019. That was mainly due to optimization of investment scale and structure in upstream and improvement of success rate in exploration.

Personnel expenses were RMB87.5 billion, representing an increase of 5.4% over 2019.

Taxes other than income tax were RMB235.0 billion, representing a decrease of 3.9% over 2019. That was mainly due to the decrease of consumption tax resulting from the decrease of production volume in gasoline and diesel.

Other operating expenses, net were RMB5.8 billion, representing an increase of RMB5.4 billion over the same period of 2019. That was mainly due to the increased impairment in fixed and long-term assets.

Operating income

In 2020, our operating income was RMB13.7 billion, representing a decrease of 84.2% over 2019, mainly due to the decrease of processing volume, sales volume, and products margin affected by the COVID-19 outbreak, slump of crude oil prices, and drop of market demand.

Net finance costs

In 2020, our net finance costs were RMB9.5 billion, representing a decrease of RMB0.5 billion over 2019.

Earnings before income tax

In 2020, our earnings before income tax were RMB48.6 billion, representing a decrease of 46.1% over 2019.

Income tax expense

In 2020, we recognized income tax expense of RMB6.3 billion, representing a decrease of 64.9% over 2019. That was mainly due to decrease of earnings before income tax, resulting in a decrease of RMB11.7 billion in earning before income tax.

Net income attributable to non-controlling interests

In 2020, our net income attributable to non-controlling interests was RMB8.8 billion, representing a decrease of RMB5.8 billion over 2019.

Net income attributable to owners of the Company

In 2020, our net income attributable to our owners was RMB33.4 billion, representing a decrease of 41.9% over 2019.

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 data 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	
	2019	2020	2021	2020	2021	2020	2021
	(RMB in billions)			(%)	(%)	(%)	(%)
Exploration and production							
External sales ⁽¹⁾	122	110	163	3.2	3.4	5.2	5.9
Inter-segment sales	89	58	87	1.7	1.8		
Total operating revenue	211	168	250	4.9	5.2		
Refining							
External sales ⁽¹⁾	146	118	173	3.4	3.6	5.6	6.3
Inter-segment sales	1,077	826	1,212	23.7	24.9		
Total operating revenue	1,224	944	1,386	27.1	28.5		
Marketing and distribution							
External sales ⁽¹⁾	1,427	1,097	1,404	31.6	29.0	52.1	51.2
Inter-segment sales	4	5	7	0.1	0.1		
Total operating revenue	1,431	1,102	1,412	31.7	29.1		
Chemicals							
External sales ⁽¹⁾	437	331	435	9.5	9.0	15.2	16.0
Inter-segment sales	78	41	70	1.2	1.4		
Total operating revenue	515	372	506	10.7	10.4		
Corporate and others							
External sales ⁽¹⁾	827	460	565	13.2	11.7	21.9	20.6
Inter-segment sales	654	430	732	12.4	15.1		
Total operating revenue	1,481	890	1,298	25.6	26.8		
Total operating revenue before inter-segment eliminations	4,862	3,476	4,850	100.0	100.0		
Elimination of inter-segment sales	(1,904)	(1,371)	(2,109)				
Consolidated operating revenues	2,958	2,105	2,741			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 2020 to 2021.

	Year Ended December 31,			Change from 2020 to 2021 (%)
	2019	2020 (RMB in billions)	2021	
Exploration and production				
Total operating revenues	211	168	250	49.0
Total operating expenses	(201)	(184)	(245)	33.2
Total operating income/(loss)	9	(16)	5	—
Refining				
Total operating revenues	1,224	944	1,386	46.8
Total operating expenses	(1,193)	(950)	(1,320)	39.0
Total operating income/(loss)	31	(6)	65	(1,281.5)
Marketing and distribution				
Total operating revenues	1,431	1,102	1,412	28.1
Total operating expenses	(1,402)	(1,081)	(1,390)	28.6
Total operating income	29	21	21	1.8
Chemicals				
Total operating revenues	515	372	506	36.0
Total operating expenses	(498)	(361)	(494)	37.0
Total operating income	17	11	11	2.7
Corporate and others				
Total operating revenues	1,485	890	1,298	45.8
Total operating expenses	(1,485)	(891)	(1,301)	46.1
Total operating income/(loss)	0.06	(0.39)	(3.23)	—
Elimination of inter-segment income	(0.04)	4	(4.42)	—

Exploration and Production Segment

Most of the crude oil and a small 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, 2021 Compared with Year Ended December 31, 2020

In 2021, the operating revenues of this segment was RMB250.0 billion, representing an increase of 49.0% over 2020. This was mainly attributed to the increase of realized price in crude oil and natural gas, as well as the sales volume of natural gas increase.

In 2021, the segment sold 34.09 million tonnes of crude oil, representing a decrease of 1.2% over 2020. Natural gas sales volume was 30.8 billion cubic meters (bcm), representing an increase of 11.1% over 2020. Regasified LNG sales volume was 19.1 bcm, representing an increase of 22.3% over 2020. LNG sales volume was 6.18 million tonnes, representing an increase of 0.1% over 2020. Average realized prices of crude oil, natural gas, Regasified LNG, and LNG were RMB2,932 per tonne, RMB1,605 per thousand cubic meters, RMB2,119 per thousand cubic meters, and RMB3,909 per tonne, respectively, representing an increase of 54.2%, 18.0%, 19.4%, and 53.7% respectively over 2020.

In 2021, the operating expenses of this segment was RMB245.3 billion, representing an increase of 33.2% over 2020. This was mainly due to:

- Procurement cost of LNG increased by RMB45.0 billion year on year;
- Depreciation, depletion and amortization increased by RMB6.6 billion year on year, as a result of the increase of depletion ratio;
- Resource Tax and special oil income levy increased by RMB3.9 billion year on year;
- Exploration expense increased by RMB2.7 billion year on year; and
- Impairment decreased by RMB6.0 billion year on year.

In 2021, the oil and gas lifting cost was RMB776.94 per tonne, representing a year on year increase of 6.5%, mainly attributable to the increase in the cost of purchased material, fuels, and power as the international commodities prices increased, and the increase of personnel expenses.

In 2021, the operating profit of the exploration and production segment was RMB4.7 billion, representing an increase of RMB21.2 billion over the same period of 2020, which was mainly attributable to the fact that the segment promoted high-quality exploration and profitable development, focused on reducing cost, enhanced integrated operation of production, supply, storage and sales.

Year Ended December 31, 2020 Compared with Year Ended December 31, 2019

In 2020, the operating revenues of this segment were RMB167.8 billion, representing a decrease of 20.4% over 2019. This was mainly attributed to the decrease of realized price in crude oil, natural gas and LNG.

This segment sold 34.52 million tonnes of crude oil and 27.8 billion cubic meters of natural gas in 2020, representing an increase of 0.5% and a decrease of 3.6% over 2019, respectively; 15.7 billion cubic meters of gasified LNG, representing an increase of 40.3% over 2019; and 6.17 million tonnes of LNG, representing an increase of 30.2% over 2019. The average realized price of crude oil and natural gas was RMB1,902 per tonne and RMB1,360 per thousand cubic meters, respectively, representing a decrease of 33.6% and a decrease of 13.2%, respectively, over 2019, and the average realized price of gasified LNG and LNG was RMB1,774 per thousand cubic meters and RMB2,543 per tonne, respectively, representing a decrease of 13.0% and a decrease of 23.1%, respectively.

In 2020, the operating expenses of this segment were RMB184.2 billion, representing a decrease of 8.5% over 2019. This was mainly due to:

- Procurement cost decreased by RMB12.0 billion year on year, as a result of decrease of LNG price;
- Depreciation, depletion and amortization decreased by RMB4.5 billion year on year;
- Cost of power fuel and purchased materials decreased by RMB2.1 billion year on year;
- Resource Tax and special oil income levy decreased by RMB2.0 billion year on year; and
- Impairment losses on long-lived assets increased by RMB7.9 billion year on year.

The lifting cost for oil and gas was RMB729.59 per tonne in 2020, representing a decrease of 6.7% over 2019, mainly attributable to the decrease in the cost of purchased material, fuels, and power since the upstream segment proactively reinforced the cost control to cope with the low oil price environment.

In 2020, the operating loss of the exploration and production segment was RMB16.5 billion, representing a decrease of RMB25.8 billion compared with 2019, mainly attributable to decrease of international 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, 2021 Compared with Year Ended December 31, 2020

In 2021, the operating revenues of this segment was RMB1,385.6 billion, representing an increase of 46.8% over 2020. This was mainly attributed to the demand recovery and the increases of refined oil products prices and sales volume.

The table below sets forth sales volume and average realized prices by product for 2021 and 2020, as well as the percentage changes in sales volume and average realized prices for the periods shown.

	Sales volume		Change from 2020 to 2021 (%)	Average realized prices		Change from 2020 to 2021 (%)
	2020 (thousand tonnes)	2021		2020 (RMB per tonne)	2021	
Gasoline	56,259	63,827	13.5	5,813	7,208	24.0
Diesel	61,167	58,807	(3.9)	4,354	5,563	27.8
Kerosene	17,309	17,313	0.0	2,673	3,734	39.7
Chemical feedstock	39,872	45,234	13.5	2,596	3,989	53.7
Other refined oil products	65,353	68,783	5.3	3,004	5,061	68.5

In 2021, sales revenue of gasoline was RMB460.1 billion, representing an increase of 40.7% over 2020; The sales revenue of diesel was RMB327.1 billion, representing an increase of 22.8% over 2020; the sales revenue of kerosene was RMB64.6 billion, representing an increase of 39.7% over 2020; the sales revenue of chemical feedstock was RMB180.4 billion, representing an increase of 74.3% over 2020; and the sales revenue of refined petroleum products other than gasoline, diesel, kerosene and chemical feedstock was RMB348.1 billion, representing an increase of 77.3% over 2020.

In 2021, the segment's operating expenses was RMB1,320.3 billion, representing an increase of 39.0% over 2020. This was mainly attributed to the increase in procurement cost of crude oil, and the increase of taxes and surcharges related to sales revenue year on year.

In 2021, the average processing cost for crude oil was RMB3,329 per tonne, representing an increase of 35.6% over 2020. Total crude oil processed was 263.85 million tonnes (excluding volume processed for third parties), representing an increase of 7.3% over 2020. The total cost of crude oil processed was RMB878.4 billion, representing an increase of 45.5% over 2020.

In 2021, refining margin was RMB532 per tonne, representing an increase of RMB292 per tonne compared with that of the same period of 2020. This was mainly attributed to the increase in demand for refined oil products and chemical raw materials, and substantial improvement in gross margin of refined oil products and naphtha, as well as the significant inventory gains of crude oil and refined products.

In 2021, the refining unit cash operating cost (defined as operating expenses less the processing cost of crude oil and refining feedstock, depreciation and amortization, taxes other than income tax and other operating expenses, then divided by the throughput of crude oil and refining feedstock) was RMB213.24 per tonne, representing an increase of 17.5% over 2020, which was mainly attributed to the increased expense of safety, environment protection, and maintenance year on year.

In 2021, the operating income of the segment totaled RMB65.3 billion, representing an increase of RMB70.8 billion compared with that of 2020. This was mainly due to the fact that the segment seized the opportunity of market recovery to increase the utilization rates of facilities and made efforts to optimize the product slate. The inventory gains of crude oil and refined products increased, and the refining margin improved significantly.

Year Ended December 31, 2020 Compared with Year Ended December 31, 2019

In 2020, the operating revenues of this segment was RMB944.1 billion, representing a decrease of 22.9% over 2019. This was mainly attributed to the decrease in products prices and crude oil throughput compared with the same period of last year as a result of recession in market demand which was impacted by the COVID-19 pandemic.

The table below sets forth sales volume and average realized prices by product for 2020 and 2019, as well as the percentage changes in sales volume and average realized prices for the periods shown.

	Sales volume		Change from 2019 to 2020 (%)	Average realized prices		Change from 2019 to 2020 (%)
	2019 (thousand tonnes)	2020		2019 (RMB per tonne)	2020	
Gasoline	60,750	56,259	(7.4)	7,057	5,813	(17.6)
Diesel	63,509	61,167	(3.7)	5,477	4,354	(20.5)
Kerosene	23,890	17,309	(27.6)	4,252	2,673	(37.2)
Chemical feedstock	39,720	39,872	0.4	3,531	2,596	(26.5)
Other refined oil products	61,890	65,353	5.6	3,230	3,004	(7.0)

In 2020, our sales revenues of gasoline were RMB327.0 billion, representing a decrease of 23.7% over 2019; the sales revenues of diesel were RMB266.3 billion, representing a decrease of 23.4% over 2019; the sales revenues of kerosene were RMB46.3 billion, representing a decrease of 54.5% over 2019; the sales revenues of chemical feedstock were RMB103.5 billion, representing a decrease of 26.2% over 2019; and the sales revenues of other refined oil products other than gasoline, diesel, kerosene and chemical feedstock were RMB196.3 billion, representing a decrease of 1.8% over 2019.

This segment's operating expenses were RMB949.6 billion in 2020, representing a decrease of 20.4% over 2019, which is mainly attributable to the decrease in procurement cost of crude oil resulted from the slump of international crude oil price.

In 2020, the average processing cost of crude oil was RMB2,456 per tonne, representing a decrease of 27.8% over 2019. Refining throughput were 245.92 million tonnes (excluding the volume processed for third parties), representing a decrease of 2.6% over 2019. In 2020, the total costs of crude oil processed were RMB603.9 billion, representing a decrease of 29.7% over 2019, which was accounted for 63.6% of the segment's operating expenses, a decrease of 8.4 percentage points year on year.

The refining margin was RMB240 per tonne in 2020, representing a decrease of RMB126 per tonne compared with 2019. This is mainly due to the significant shrink of margin in kerosene and other refined petroleum products which was impacted by the COVID-19 outbreak and market demand recession as well as inventory losses of crude oil and refined products due to crude oil price slump.

In 2020, the refining cash operating cost (defined as operating expenses less the processing cost of crude oil and refining feedstock, depreciation and amortization, taxes other than income tax and other operating expenses, then divided by the throughput of crude oil and refining feedstock) was RMB181.48 per tonne, an increase of 2.1% over 2019, which was mainly because the unit cost increased as a result of the throughput decreased compared with last year.

In 2020, the operating loss of the segment totaled RMB5.5 billion, representing a decline of RMB36.2 billion compared with 2019.

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, 2021 Compared with Year Ended December 31, 2020

In 2021, the operating revenues of this segment was RMB1,411.5 billion, up by 28.1% year-on-year. This was mainly attributed to the recovery of market demand and thus the increase in the sales volume and price of refined oil products. The sales revenues of gasoline totaled RMB702.5 billion, up by 27.9% year-on-year; the sales revenues of diesel was RMB462.8 billion, up by 22.7% year-on-year; the sales revenues of kerosene was RMB80.3 billion, up by 46.4% year-on-year.

The following table sets forth the sales volumes, average realized prices and the respective rates of changes of the four major product categories in 2021 and 2020, including breakdown in retail, wholesale and distribution of gasoline and diesel.

	Sales Volume		Change from 2020 to 2021 (%)	Average Realized Prices		Change from 2020 to 2021 (%)
	2020 (thousand tonnes)	2021 (thousand tonnes)		2020 (RMB per tonne)	2021 (RMB per tonne)	
Gasoline	86,216	90,873	5.4	6,370	7,730	21.4
Retail sale	61,446	64,325	4.7	6,940	8,223	18.5
Wholesale and distribution	24,770	26,548	7.2	4,955	6,537	31.9
Diesel	77,507	78,566	1.4	4,865	5,890	21.1
Retail sale	36,757	33,644	(8.5)	5,351	6,537	22.2
Wholesale and distribution	40,750	44,923	10.2	4,426	5,406	22.1
Kerosene	20,828	21,296	2.2	2,634	3,772	43.2
Fuel oil	23,331	25,847	10.8	2,536	3,437	35.6

In 2021, the operating expenses of the segment were RMB1,390.3 billion, up by 28.6% year-on-year. This was mainly due to the increase of sales volumes and prices of refined oil products, and thus the increase of procurement costs.

In 2021, the segment's marketing expense (defined as the operating expenses less the purchase costs, taxes other than income tax, depreciation and amortization, divided by sales volume) was RMB197.66 per tonne, up by 4.11% year on year.

In 2021, the operating revenues of nonfuel business was RMB35.4 billion, up by RMB1.5 billion year-on-year and the profit of non-fuel business was RMB4.1 billion, up by RMB0.4 billion. This was mainly because the Company vigorously promoted company-owned brands and actively explored emerging business models to maintain the increase of volume and profit of non-fuel business.

In 2021, the segment seized the favorable opportunity of market recovery, brought synergy advantages of industrial chain into full play, coordinated internal and external resources, expanded market and increased sales, and continuously expand business volume. Operating profit was RMB21.2 billion, representing an increase of RMB0.4 billion or 1.8% year on year.

Year Ended December 31, 2020 Compared with Year Ended December 31, 2019

In 2020, the operating revenues of this segment was RMB1,102.2 billion, down by 23.0% year-on-year. This was mainly because demand and sales volume of refined oil products decreased as a result of COVID-19 impact and reduced oil prices. The sales revenues of gasoline totaled RMB549.2 billion, down by 19.4% year-on-year; the sales revenues of diesel were RMB377.0 billion, down by 25.7% year-on-year; and the sales revenues of kerosene was RMB54.9 billion, down by 52.8% year-on-year.

The following table sets forth the sales volumes, average realized prices and the respective rates of changes of the four major product categories in 2020 and 2019, including breakdown in retail, wholesale and distribution of gasoline and diesel.

	Sales Volume		Change from 2019 to 2020 (%)	Average Realized Prices		Change from 2019 to 2020 (%)
	2019 (thousand tonnes)	2020 (thousand tonnes)		2019 (RMB per tonne)	2020 (RMB per tonne)	
Gasoline	92,261	86,216	(6.6)	7,387	6,370	(13.8)
Retail sale	66,440	61,446	(7.5)	7,968	6,940	(12.9)
Wholesale and distribution	25,820	24,770	(4.1)	5,892	4,955	(15.9)
Diesel	87,335	77,507	(11.3)	5,812	4,865	(16.3)
Retail sale	43,503	36,757	(15.5)	6,227	5,351	(14.1)
Wholesale and distribution	43,832	40,750	(7.0)	5,399	4,426	(18.0)
Kerosene	27,068	20,828	(23.1)	4,297	2,634	(38.7)
Fuel oil	21,772	23,331	7.2	3,072	2,536	(17.4)

In 2020, the operating expenses of the segment were RMB1,081.4 billion, representing a decrease of RMB320.5 billion year-on-year, down by 22.9%. This was mainly due to the decrease of sales volumes and procurement costs.

In 2020, the operating revenues of nonfuel business was RMB33.9 billion, up by RMB1.8 billion year-on-year and the profit of non-fuel business was RMB3.7 billion, up by RMB0.5 billion. This was mainly because the Company vigorously promoted company-owned brands and innovated marketing model to boost the increase of volume and profit of non-fuel business.

In 2020, the segment's marketing operating cash cost (defined as the operating expenses less the purchase costs, taxes other than income tax, depreciation and amortization, divided by sales volume) was RMB189.86 per tonne, up by 4.0% year-on-year, which was mainly because the unit cost increased as a result of the decreased sales volume.

In 2020, the segment's operating profit was RMB20.8 billion, down by 28.4% year-on-year. This was mainly because sales volume decreased as a result of shrinking demand of refined oil product.

Chemicals Segment

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

Year Ended December 31, 2021 Compared with Year Ended December 31, 2020

In 2021, the operating revenues of this segment was RMB505.5 billion, up by 36.0% year-on-year. This was mainly due to the steady growth of domestic economy, and the fact that the demand for chemical products still maintained a high level, and the product prices increased year on year.

In 2021, the sales revenue generated by the segment's six major categories of chemical products (namely basic organic chemicals, synthetic resin, synthetic fiber monomer and polymer, synthetic fiber, synthetic rubber, and chemical fertilizer) was RMB478.6 billion, up by 34.9%, accounting for 94.7% of the operating revenues of the 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 2020 to 2021.

	Sales Volume		Change from 2020 to 2021 (%)	Average Realized Prices		Change from 2020 to 2021 (%)
	2020 (thousand tonnes)	2021		2020 (RMB per tonne)	2021	
Basic organic chemicals	47,109	48,059	2.0	3,569	5,311	48.8
Synthetic fiber monomers and polymers	9,743	7,010	(28.1)	4,302	6,580	53.0
Synthetic resin	17,124	17,924	4.7	7,150	8,325	16.4
Synthetic fiber	1,403	1,457	3.8	6,407	7,521	17.4
Synthetic rubber	1,364	1,289	(5.5)	7,986	11,104	39.0
Chemical fertilizer	1,181	981	(16.9)	1,950	2,797	43.4

In 2021, the operating expenses of the chemicals segment was RMB494.4 billion, representing an increase of 37.0% over 2020, mainly because of the increase in the price of externally procured raw materials as a result of crude oil price increase.

In 2021, the Company seized the favorable opportunities of economy recovery and high realized prices of chemical products, continuously optimized the structures of feedstock, product and facilities, and achieved growing profits with increased margins of petrochemicals. The operating profit of this segment was RMB11.1 billion, representing an increase of 2.7% over 2020.

Year Ended December 31, 2020 Compared with Year Ended December 31, 2019

In 2020, the operating revenues of this segment was RMB371.6 billion, down by 27.9% year-on-year. This was mainly due to the decrease in chemical products prices and sales volume of some products because of COVID-19 impact.

In 2020, the sales revenue generated by the segment's six major categories of chemical products (namely basic organic chemicals, synthetic resin, synthetic fiber monomer and polymer, synthetic fiber, synthetic rubber, and chemical fertilizer) was RMB354.7 billion, down by 24.2%, accounting for 95.4% of the operating revenues of the 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 2019 to 2020.

	Sales Volume		Change from 2019 to 2020 (%)	Average Realized Prices		Change from 2019 to 2020 (%)
	2019 (thousand tonnes)	2020		2019 (RMB per tonne)	2020	
Basic organic chemicals	52,007	47,109	(9.4)	4,534	3,569	(21.3)
Synthetic fiber monomers and polymers	14,089	9,743	(30.8)	5,722	4,302	(24.8)
Synthetic resin	16,131	17,124	6.2	7,804	7,150	(8.4)
Synthetic fiber	1,370	1,403	2.4	8,438	6,407	(24.1)
Synthetic rubber	1,284	1,364	6.3	9,595	7,986	(16.8)
Chemical fertilizer	925	1,181	27.7	2,109	1,950	(7.5)

In 2020, the operating expenses of the segment was RMB360.8 billion, down by 27.6% year-on-year.

In 2020, the segment's operating profit was RMB10.8 billion, down by RMB6.6 billion year-on-year. This was mainly due to the decrease in chemical product prices and narrowed gross margin as a result of COVID-19 impact.

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, 2021 Compared with Year Ended December 31, 2020

In 2021, the operating revenue generated from corporate and others was approximately RMB1,297.7 billion, representing an increase of 45.8% over 2020. This was mainly attributed to the great increase in the trading prices of crude oil and refined oil products.

In 2021, the operating expenses of corporate and others was RMB1,300.9 billion, representing an increase of 46.1% over 2020.

In 2021, the operating loss from corporate and others was RMB3.2 billion, representing an increase in loss of RMB2.8 billion over the same period of 2020. This was mainly attributed to the expansion of research and development investment scale which led to increase in research and development expenses and the increase of personnel expenses, and the cancellation of the government's preferential treatment granted in 2020 with respect to social insurance during the COVID-19 pandemic.

Year Ended December 31, 2020 Compared with Year Ended December 31, 2019

In 2020, the operating revenues generated from corporate and others was RMB890.3 billion, down by 39.9% year-on-year. This was mainly because sales volume and prices of crude oil and refined oil products plunged as a result of COVID-19 impact.

In 2020, the operating expenses for corporate and others was RMB890.7 billion, down by 39.8% year-on-year.

In 2020, the segment's operating loss was RMB0.04 billion, of which trading companies realized an operating profit of RMB4.1 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, 2019, 2020 and 2021.

Statement of cash flow data	Year Ended December 31,		
	2019	2020	2021
	(RMB in millions)		
Net cash generated from operating activities	154,380	168,520	225,174
Net cash used in investing activities	(121,314)	(102,650)	(145,198)
Net cash used in financing activities	(84,702)	(37,510)	(57,942)
Net (decrease)/increase in cash and cash equivalents	(51,636)	28,360	22,034

In 2021, the net cash generated from operating activities of the Company was RMB225.2 billion, representing an increase of RMB56.7 billion over 2020. This was mainly due to the increase of RMB60.6 billion in earnings before income tax.

In 2020, the net cash generated from operating activities of the Company was RMB168.5 billion, representing an increase in cash of RMB14.1 billion year on year. This was mainly due to the strengthened management of inventories and receivables and payables resulting in sharp decrease of occupation of funds.

In 2021, the net cash used in investing activities was RMB145.2 billion, representing an increase of RMB42.5 billion over 2020, of which: proceeds from disposal of investments and investments in associates increased by RMB44.8 billion, capital expenditure increased by RMB9.6 billion, exploratory wells expenditure increased by RMB3.6 billion, purchasing investment and associates and joint ventures investments decreased by RMB1.1 billion, and cash outflow from changes in time deposit with maturities over three months decreased by RMB13.2 billion.

In 2020, the net cash used in investing activities was RMB102.7 billion, representing a year on year decrease of RMB18.7 billion, mainly because capital expenditures decreased by RMB12.0 billion.

In 2021, the net cash used in the Company's financing activities was RMB57.9 billion, representing an increase of cash outflow by RMB20.4 billion over 2020. This was mainly due to an decrease of RMB3.2 billion in investments from non-controlling shareholders, increase of RMB3.6 billion in cash paid for dividends, increase of RMB3.2 billion in dividends allocated to non-controlling shareholders by subsidiaries, and increase of RMB7.1 billion in acquisition of non-controlling equity interests, and increase in repayment for lease liabilities of RMB4.1 billion.

In 2020, the net cash used in financing activities were RMB37.5 billion, representing a year on year decrease of RMB47.2 billion, mainly because proceeds from bank and other loans decreased by RMB43.9 billion, repayments of bank and other loans decreased by RMB74.2 billion, dividends paid by the Company decreased by RMB14.5 billion, distributions by subsidiaries to non-controlling shareholders decreased by RMB3.0 billion.

In respect of our cash flow situation of 2021, we further reduced capital precipitation, accelerated capital revenue, strengthened the centralized management of funds, strictly controlled the scale of monetary funds and interest-bearing debts, and improved our operating cash flow situation.

In respect of our debts and borrowings in 2021, we managed to stabilize our operating cash flow, we increased our debts to RMB130.1 billion at the end of 2021 from RMB112.8 billion from the beginning of 2021. Among which, our short-term debts increased by RMB11.5 billion as compared to the beginning of 2021, representing a increase from 21.06% at the beginning of 2021 to 27.09% at the end of 2021 of the debts, primarily because of the increased short-form loan by our listed entity. Our long-term debts increased by RMB6.3 billion from the beginning of 2021, representing an decrease from 63.84% at the beginning of 2021 to 60.18% at the end of 2021 of the debts, which was mainly due to the issuance of corporate bonds. Our short-term debts 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.

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, 2021.

	As of December 31, 2021		
	Total	less than 1 year (RMB in millions)	More than 1 year
Contractual obligations⁽¹⁾			
Short-term debt	54,622	54,622	—
Long-term debt	101,257	2,425	98,832
Total contractual obligations	155,879	57,047	98,832
Other commercial commitments			
Capital commitments	274,657	184,430	90,227
Exploration and production licenses	1,535	301	1,234
Guarantees ⁽²⁾	14,863	14,863	—
Total commercial commitments	291,055	199,594	91,461

- (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, 2021, 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, 2021, the maximum amount of potential future payments under the guarantees was RMB14.9 billion. As of December 31, 2020, the maximum amount of potential future payments under the guarantees was RMB14.8 billion. See Note 34 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 2019, 2020 and 2021 and the capital expenditure in each segment as a percentage of our total capital expenditure for such year.

	2019		2020		2021		Total	
	RMB	Percent	RMB	Percent	RMB	Percent	RMB	Percent
	(in billions, except percentage data)							
Exploration and production	61.7	42 %	56.4	41 %	68.1	41 %	186.2	41 %
Refining	31.4	21 %	24.8	18 %	22.5	13 %	78.7	17 %
Marketing and distribution	29.6	20 %	25.4	18 %	21.9	13 %	76.9	17 %
Chemicals	23.6	16 %	28.2	21 %	51.6	31 %	103.4	23 %
Corporate and others	1.9	1 %	2.3	2 %	3.8	2 %	8.0	2 %
Capital Expenditure	<u>148.2</u>	<u>100 %</u>	<u>137.1</u>	<u>100 %</u>	<u>167.9</u>	<u>100 %</u>	<u>453.2</u>	<u>100 %</u>

In 2021, focusing on investment quality and return, the Company continued to optimize investment management. The capital expenditures for the whole year were RMB167.9 billion, among which:

- *Exploration and production.* RMB68.1 billion, mainly used for crude production capacity construction in Shunbei Oilfield, natural gas production capacity construction in Western Sichuan, Fuling and Weirong, storage and transmission facilities of Tianjin LNG Phase II and Qingdao LNG Phase III, and the CCUS Project in Shengli Oilfield.
- *Refining.* RMB22.5 billion, mainly used for the expansion of Zhenhai refinery and structural adjustment of Anqing and Yangzi refineries.
- *Marketing and distribution.* RMB21.9 billion, mainly used for service stations, integrated energy stations and logistics facilities.
- *Chemicals.* RMB51.6 billion, mainly used for Zhenhai, Sinopec-SK, Hainan, Tianjin Nangang, Gulei ethylene projects, AGCC project, Jiujiang Aromatics project, Shanghai large-tow carbon fiber project, Yizheng PTA project, Guizhou PGA project, and Qilu CCUS project.
- *Corporate and others.* RMB3.8 billion, mainly for research and development facilities and information technology projects.

Capital expenditures for the year 2022 are budgeted at RMB198 billion, among which,

- *Exploration and production.* The planned capital expenditure in 2022 for this segment is approximately RMB81.5 billion, with focuses on construction of crude oil production capacity in Shunbei and Tahe oilfields, and natural gas production capacity in Western Sichuan, Dongsheng and Zhongjiang and construction of storage and transmission facilities such as Longkou LNG.
- *Refining.* The planned capital expenditure in 2022 for this segment is RMB20.4 billion, mainly on the construction of Anqing, Yangzi refinery structural adjustment projects and Zhenhai refinery Phase II.
- *Marketing and distribution.* The planned capital expenditure in 2022 for this segment is RMB23.7 billion mainly used for the construction of service stations, integrated energy stations and logistics facilities.
- *Chemicals.* The planned capital expenditure in 2022 for this segment is RMB66.1 billion, which will be mainly used for Hainan and Tianjin Nangang ethylene projects, Jiujiang Aromatics project, Shanghai large-tow carbon fiber project, Yizheng PTA project, Guizhou PGA project, Zhenhai Refinery Phase II.
- *Corporate and others.* The planned capital expenditure in 2022 for this segment is RMB6.3 billion, mainly for research and development facilities and information technology projects.

Research and Development

Our expenditures for research and development were RMB15.5 billion in 2019, RMB15.2 billion in 2020 and RMB21.1 billion in 2021, among which, the research expenses were RMB9.5 billion, RMB10.1 billion and RMB11.5 billion for each of the three years, respectively.

Consumer Price Index

According to the data provided by the National Bureau of Statistics, the consumer price index (CPI) in the PRC increased by 0.9% in 2021 over 2020 (CPI increased by 2.5% in 2020) and increased by 3.4% over 2019.

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 of our directors of the seventh session of the Board of Directors will expire in May 2024.

Name	Age	Position with the Company
Ma Yongsheng	60	Chairman
Zhao Dong	51	Director
Yu Baocai	57	Director, President
Ling Yiqun	59	Director, Senior Vice President
Li Yonglin	55	Director, Senior Vice President
Liu Hongbin	59	Director, Senior Vice President
Cai Hongbin	54	Independent Director
Ng, Kar Ling Johnny	61	Independent Director
Shi Dan	60	Independent Director
Bi Mingjian	66	Independent Director

Ma Yongsheng, aged 60, Chairman of the Board of Sinopec Corp. Mr. Ma is a professor level senior engineer with a Ph.D. degree. Mr. Ma is a member of the 13th National Committee of Chinese People's Political Consultative Conference ("CPPCC") 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 General Manager and Party Secretary of CPC Committee of Sinopec Southern Exploration and Production Company; in March 2007, he served as General Manager and Deputy Party Secretary of CPC Committee of Sinopec Exploration Company; in May 2007, he was appointed as Deputy Commander of Sichuan-East China Gas Pipeline Project Headquarter of Sinopec Corp.; in May 2008, he was appointed as Deputy Director General of Exploration and Production Department of Sinopec Corp. (Director General Level); 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 December 2015, he served as Vice President of China Petrochemical Corporation and was appointed as Senior Vice President of Sinopec Corp.; in January 2017, he was appointed as Member of the Leading Party Member Group of China Petrochemical Corporation; in October 2018, he was appointed as President of Sinopec Corp; in April 2019, he was appointed as Director, President and Vice Secretary of the Leading Party Member Group of China Petrochemical Corporation; in November 2021, he was appointed as Chairman and Secretary of the Leading Party Member Group of China Petrochemical Corporation. Mr. Ma was elected as Director of Sinopec Corp. in February 2016, and was elected as the Chairman of the Board of Sinopec Corp. in November 2021.

Zhao Dong, aged 51, Director of Sinopec Corp. Mr. Zhao is a professor level senior accountant with a Ph.D. degree. In July 2002, he was appointed as Chief Accountant and General Manager of Financial Assets Department of CNPC International (Nile) Ltd.; in January 2005, he was appointed as Deputy Chief Accountant and Executive Deputy Director of Financial and Capital Operation Department of China National Oil and Gas Exploration and Development Corporation; in April 2005, he was appointed as Deputy Chief Accountant and General Manager of Financial and Capital Operation Department of China National Oil and Gas Exploration and Development Corporation; in June 2008, he was appointed as Chief Accountant of China National Oil and Gas Exploration and Development Corporation; in October 2009, he was appointed as Chief Accountant of China National Oil and Gas Exploration and Development Corporation and Chief Financial Officer of PetroChina International Investment Company Limited; in September 2012, he was appointed as Deputy General Manager of CNPC Nile Company; in August 2013, he was appointed as General Manager of CNPC Nile Company; in November 2015, he was appointed as Chief Financial Officer of PetroChina Company Limited. In November 2016, he was appointed as a Member of the Leading Party Member Group and Chief Accountant of China Petrochemical Corporation; in May 2020, he was appointed as Director and Deputy Secretary of the Leading Party Member Group of China Petrochemical Corporation. In June 2017, he was elected as Chairman of Board of Supervisors of Sinopec Corp.; in May 2021, he was elected as Director of Sinopec Corp.

Yu Baocai, aged 57, Director and President of Sinopec Corp. Mr. Yu is a senior engineer with a master's degree in economics. In September 1999, Mr. Yu was appointed as Deputy General Manager of Daqing Petrochemical Company; in December 2001, he was appointed as General Manager and Deputy Secretary of CPC Committee of Daqing Petrochemical Company; in September 2003, he was appointed as General Manager and Secretary of CPC Committee of Lanzhou Petrochemical Company; in June 2007, he was appointed as General Manager and Deputy Secretary of CPC Committee of Lanzhou Petrochemical Company and General Manager of Lanzhou Petroleum & Chemical Company; in September 2008, he was appointed as a member of the Leading Party Member Group and Deputy General Manager of China National Petroleum Corporation ("CNPC") and since May 2011, he acted concurrently as Director of PetroChina Company Limited; in June 2018, he was appointed as a Member of the Leading Party Member Group and Vice President of China Petrochemical Corporation; in September 2020, he was appointed as Senior Vice President of Sinopec Corp. Mr. Yu was elected as Director of Sinopec Corp. in October 2018, and was appointed as President of Sinopec Corp. in November 2021.

Ling Yiqun, aged 59, Director and Senior Vice President of Sinopec Corp. Mr. Ling is a professor level senior engineer with a Ph.D. degree. From August 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 Deputy Director General of Refining Department of Sinopec Corp.; in June 2003, he was appointed as Director General of Refining Department of Sinopec Corp.; in July 2010, he was appointed as Vice President of Sinopec Corp.; in May 2012, he was appointed concurrently as Executive Director, President and Secretary of CPC Committee of Sinopec Refinery Product Sales Company Limited; in August 2013, he was appointed concurrently as President and Secretary of CPC Committee of Sinopec Qilu Petrochemical Company, and President of Sinopec Qilu Company; in March 2017, he was appointed as Vice President of China Petrochemical Corporation; since April 2019, he has been a member of the Leading Party Member Group of China Petrochemical Corporation. In February 2018, he was appointed as Senior Vice President of Sinopec Corp.; in May 2018, he was elected as Director of Sinopec Corp.

Li Yonglin, aged 55, Director and Senior Vice President of Sinopec Corp. Mr. Li is a professor level senior engineer with a Ph.D. degree. Mr. Li is a member of the 13th National Committee of CPPCC. He was appointed as Vice General Manager of Sinopec Maoming Company in March 2003; in July 2009, he was appointed as Chief of Preparatory Group for the Beihai Refining Off-Site Reconstruction Project; in November 2011, he was appointed as General Manager and Deputy Secretary of CPC Committee of Sinopec Beihai Refining & Chemical Co., Ltd.; in March 2015, he was appointed as Vice Director General of Refining Division of Sinopec Corp. (Director General Level); in December 2016 he was appointed as General Manager and Deputy Secretary of CPC Committee of Sinopec Tianjin Petrochemical Company, General Manager of Sinopec Tianjin Company and Vice Chairman of SINOPEC SABIC Tianjin Petrochemical Co., Ltd.; in October 2019, he was appointed as Secretary of CPC Committee of Sinopec Tianjin Petrochemical Company and Corporate Representative of Sinopec Tianjin Company; in July 2020, he was appointed as Assistant to the President of China Petrochemical Corporation, concurrently serving as General Manager of Human Resources Department and Head of Organizational Department of the Leading Party Member Group; in November 2020, he was appointed as a member of Leading Party Member Group and Vice President of China Petrochemical Corporation.; in May 2021, he was elected as Director of Sinopec Corp. and was appointed as Senior Vice President of Sinopec Corp.

Liu Hongbin, aged 59, Director and Senior Vice President of Sinopec Corp. Mr. Liu is a senior engineer with a bachelor's degree. In June 1995, he was appointed as Chief Engineer of Tuha Petroleum Exploration & Development Headquarters; in July 1999, he was appointed as Deputy General Manager of PetroChina Tuha Oilfield Company; in July 2000, he was appointed as Commander and Deputy Secretary of CPC Committee of Tuha Petroleum Exploration & Development Headquarters; in March 2002, he served as General Manager of the Planning Department of PetroChina Company Limited; in September 2005, he served as Director of the Planning Department of CNPC; in June 2007, he was appointed as Vice President of PetroChina Company Limited, and in November 2007, he served concurrently as General Manager and Secretary of CPC Committee of the Marketing Branch of PetroChina Company Limited; in June 2009, he served concurrently as General Manager and Deputy Secretary of CPC Committee of the Marketing Branch of PetroChina Company Limited; in July 2013, he was appointed as Member of the Leading Party Member Group and Deputy General Manager of CNPC and in August 2013, he served concurrently as an Executive Director and General Manager of Daqing Oilfield Company Limited, Head of enterprise Coordination in Heilongjiang Province, Director of Daqing Petroleum Administration Bureau and Deputy Secretary of CPC Committee of Daqing Oilfield; in May 2014, he served concurrently as Director of PetroChina Company Limited; in November 2019, he was appointed as a member of the Leading Party Member Group of China Petrochemical Corporation; in December 2019, he was appointed as Vice President of China Petrochemical Corporation. In March 2020, he was appointed as Senior Vice President of Sinopec Corp. In May 2020, he was elected as Director of Sinopec Corp.

Cai Hongbin, aged 54, Independent Director of Sinopec Corp. Mr. Cai is Dean of Faculty of Business and Economics and Professor of Economics of the University of Hong Kong. Mr. Cai has a Ph.D. degree in Economics. From 1997 to 2005, Mr. Cai taught at the University of California, Los Angeles. Since 2005, he served as a professor and Ph.D. supervisor in Applied Economics Department at Guanghua School of Management at Peking University, and he once served as Director, Assistant to the Dean and Vice Dean of the Applied Economics Department. From December 2010 to January 2017, he served as Dean of Guanghua School of Management at Peking University. In June 2017, he joined the Faculty of Business and Economics of the University of Hong Kong. Mr. Cai once served as a member of the 12th National People's Congress, a member of Beijing Municipal Committee of CPPCC, a member of the 11th Central Committee of China Democratic League, Deputy Chairman of Beijing Municipal Committee of China Democratic League and a Special Auditor of the National Audit Office. He currently serves as an Independent Director of CCB International (Holdings) Limited and Ping An Bank Co., Ltd. In May 2018, he was elected as Independent Director of Sinopec Corp.

Ng, Kar Ling Johnny, aged 61, Independent Director of Sinopec Corp. Mr. Ng currently is a practicing Certified Public Accountant in Hong Kong, a practicing auditor and accountant in Macau, a Fellow of the Hong Kong Institute of Certified Public Accountants (FCPA), a Fellow of the Association of Chartered Certified Accountant (FCCA), and a Fellow of the Institute of Chartered Accountants in England and Wales (FCA). Mr. Ng obtained a bachelor's degree and a master's degree in business administration from the Chinese University of Hong Kong in 1984 and 1999, respectively. Mr. Ng joined KPMG (Hong Kong) in 1984 and became a Partner in 1996. He acted as a Managing Partner from June 2000 to September 2015 and Vice Chairman of KPMG China from October 2015 to March 2016. Mr. Ng currently serves as Independent Nonexecutive Director of China Vanke Co., Ltd., Fangdd Network Group Ltd. and Metallurgical Corporation of China Ltd. In May 2018, he was elected as Independent Director of Sinopec Corp.

Shi Dan, aged 60, Independent Director of Sinopec Corp. Ms. Shi is the legal representative and Chairman of China Industrial Economics Society, a member of Expert Advisory Committee of the National Energy Commission and a member of National Expert Committee on Climate Change and enjoys special government subsidies from the State Council. Ms. Shi obtained bachelor's degree in engineering, master's degree in economics, master's degree of development economics and Ph.D. degree in management from Changchun University of Technology, Renmin University of China, Australian National University and Huazhong University of Science and Technology respectively. In October 1993, Ms. Shi was appointed as Research Fellow and Assistant to the Dean of the Institute of Industrial Economics of Chinese Academy of Social Sciences; in August 2010, Ms. Shi was appointed as a Research Fellow and Deputy Dean of National Academy of Economic Strategy, Chinese Academy of Social Sciences; in November 2013, she was appointed as a Research Fellow and Secretary of CPC Committee (Deputy Dean) of the Institute of Industrial Economics of Chinese Academy of Social Sciences; in November 2017, she served as External Director of China Energy Investment Corporation Limited. In March 2019, she was appointed as Dean of Institute of Industrial Economics of Chinese Academy of Social Sciences. In May 2021, she was elected as Independent Director of Sinopec Corp.

Bi Mingjian, aged 66, Independent Director of Sinopec Corp. Mr. Bi obtained the certificate of diploma majoring in English from East China Normal University in 1982 and master's degree in business administration from George Mason University in the United States of America in 1993 respectively. Mr. Bi served as a cadre at Shanghai Subei Haifeng Farm from April 1977 to April 1979; he studied at the External Training Program of the Cadre School of the Ministry of State Farms and Land Reclamation, and subsequently he studied at a farm in Saskatchewan Province of Canada from April 1979 to November 1980; he served as a cadre at the Foreign Affairs Bureau of the Ministry of State Farms and Land Reclamation from November 1980 to December 1983; he served as Deputy Division Chief of the State Farms and Land Reclamation Bureau of the Ministry of Agriculture from January 1984 to December 1985; he served as Operation Officer of the World Bank Representative Office in China from December 1985 to June 1988; he served as Deputy Director of the project office of China Rural Trust and Investment Corporation from June 1988 to October 1988; he served as Project Economist and Advisor of the World Bank from October 1988 to January 1994; he served as a cadre at People's Construction Bank of China from January 1994 to July 1995; he served as Deputy Chief Executive Officer, member and Deputy Chairman of the Management Committee, Co-Chief Operating Officer and Co-Head of the Investment Banking Department of China International Capital Corporation Limited ("CICC") from August 1995 to February 2006; he served as a Senior Advisor to CICC from March 2006 to November 2012; he served as a Managing Partner of HOPU Investment Management Co., Ltd. from November 2012 to March 2015; he served as a non-executive director for China Investment Securities Co., Ltd. (currently known as China CICC Wealth Management Securities Company Limited) from March 2017 to January 2020; from March 2015 to December 2019, he served as Chief Executive Officer and Chairman of Management Committee of CICC; from May 2015 to February 2020, he served as Executive Director of CICC. In May 2021, he was elected as Independent Director of Sinopec Corp.

Supervisors

The table and discussion below set forth certain information concerning our supervisors. The current term for all of our supervisors of the seventh session of the Board of Supervisors will expire in May 2024.

Name	Age	Position with the Company
Zhang Shaofeng	50	Chairman of the Board of Supervisors
Jiang Zhenying	57	Supervisor
Zhang Zhiguo	59	Supervisor
Yin Zhaolin	56	Supervisor
Guo Hongjin	56	Supervisor
Li Defang	60	Employee Representative Supervisor
Lv Dapeng	60	Employee Representative Supervisor
Chen Yaohuan	58	Employee Representative Supervisor

Zhang Shaofeng, aged 50, Chairman of Board of Supervisors of Sinopec Corp. Mr. Zhang is a professor level senior accountant with a master's degree in business administration. In December 2008, he was appointed as Chief Accountant and Member of the CPC Committee of Trans-Asia Gas Pipeline Company Limited of China National Petroleum Corporation ("CNPC"); in July 2017, he was appointed as General Manager of Finance Department of CNPC (PetroChina Company Limited); in December 2017, he was appointed as General Manager of Finance Department of CNPC (PetroChina Company Limited); in July 2020, he was appointed as Member of the Leading Party Member Group and Chief Accountant of China Petrochemical Corporation. In September 2020, he was elected as Director of Sinopec Corp.; in May 2021, he was elected as Chairman of Board of Supervisors of Sinopec Corp.

Jiang Zhenying, aged 57, Supervisor of Sinopec Corp. Mr. Jiang is a professor level senior economist with a Ph.D. degree in management. In December 1998, he was appointed as Vice President of China Petrochemical Supplies & Equipment Co., Ltd.; in February 2000, he was appointed as Deputy Director General of Sinopec Procurement Management Department; in December 2001, he was appointed as Director General of Sinopec Procurement Management Department; 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 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 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 of Safety Supervisory Bureau of China Petrochemical Corporation and Director General of Safety Supervisory Department of Sinopec Corp. In May 2017, he was appointed as Deputy Director General (Director General Level) of the Office of Leading Party Member Group Inspection Work of China Petrochemical Corporation; in December 2018, he was appointed as Director of Audit Bureau of China Petrochemical Corporation, and Director of Audit Department of Sinopec Corp.; in December 2019, he was appointed as President of Audit Bureau of Sinopec Corp. and Director of the Office of Audit Committee of Leading Party Member Group of China Petrochemical Corporation. In December 2010, he was elected as Employee's Representative Supervisor of Sinopec Corp.; in May 2018, he was elected as Supervisor of Sinopec Corp.

Zhang Zhiguo, aged 59, Supervisor of Sinopec Corp. Mr. Zhang is a professor level senior administration engineer with a master's degree. In September 2009, he was appointed as Deputy Director General of Corporate Office of China Petrochemical Corporation (Sinopec President's office); in March 2015, he was appointed as Secretary of CPC Committee of Sinopec Management Institute (Sinopec Communist Party School); in December 2018, he was appointed as Director General of the Office of Leading Party Member Group Inspection Work of China Petrochemical Corporation; in December 2019, he was appointed as Director General of the General Management Department and Director of Leading Party Member Group Office of China Petrochemical Corporation. In May 2021, he was elected as Supervisor of Sinopec Corp.

Yin Zhaolin, aged 56, Supervisor of Sinopec Corp. Mr. Yin is a professor level senior engineer with a master's degree in engineering. In April 2010, he was appointed as Deputy General Manager of Sinopec Maoming Company; in January 2017, he was appointed as Executive Deputy General Manager of Sinopec Maoming Company (administrated as a General Manager of a Level-I Largescale Enterprise); in April 2017, he was appointed as General Manager and Deputy Secretary of CPC Committee of Sinopec Maoming Petrochemical Company and General Manager of Sinopec Maoming Company; in July 2017, he was appointed to serve a temporary position as a member of the Standing Committee of the CPC Maoming Municipal Committee; in October 2020, he was appointed as Executive Director and Secretary of CPC Committee of the Sinopec Maoming Petrochemical Company and the representative of the Sinopec Maoming Company, head of Maoming-Zhanjiang Integration Leading Group. In May 2021, he was elected as Supervisor of Sinopec Corp.

Guo Hongjin, aged 56, Supervisor of Sinopec Corp. Mr. Guo is a professor level senior engineer with a Ph.D. degree. In July 2013, he was appointed as Deputy General Manager of Sinopec Shengli Oilfield Company; in March 2018, he was appointed as General Manager and Deputy Secretary of CPC Committee of Sinopec Shengli Petroleum Administrative Bureau Co., Ltd. and General Manager of Sinopec Shengli Oilfield Company; in December 2018, he was appointed as Executive Director, General Manager and Deputy Secretary of CPC Committee of Sinopec Jiangnan Petroleum Administrative Bureau Co., Ltd. and General Manager of Sinopec Jiangnan Oilfield Company; in July 2019, he was appointed as Executive Director and Secretary of CPC Committee of Sinopec Jiangnan Petroleum Administrative Bureau Co., Ltd. and the representative of Sinopec Jiangnan Oilfield Company; in April 2020, he was appointed as General Manager of the Petroleum Exploration & Development Department of Sinopec Corp. In May 2021, he was elected as Supervisor of Sinopec Corp.

Li Defang, aged 60, Employee's Representative Supervisor of Sinopec Corp. Mr. Li is a professor level senior engineer with a Ph.D. degree. In May 2001, he was appointed as Deputy Secretary of CPC Committee and Trade Union Chairman of Sinopec Engineering Incorporation; in December 2001, he was appointed as Director General of Information System Management Department of Sinopec Corp.; in September 2013, he was appointed as Director General of Informatisation Management Department of Sinopec Corp.; in October 2014, he was appointed as Chairman of PetroCyberWorks Information Technology Co., Ltd.; in January 2018, he was elected as Employee Supervisor of China Petrochemical Corporation; in March 2019, he was appointed as Secretary of CPC Committee of Sinopec Management Institute (Sinopec Communist Party School); in November 2020, he was appointed as the Secretary of CPC Committee of Sinopec Management Institute and Executive Vice Principal of Sinopec Communist Party School. In May 2020, he was elected as Employee's Representative Supervisor of Sinopec Corp.

Lv Dapeng, aged 60, Employee's Representative Supervisor of Sinopec Corp. Mr. Lv is a professor level senior administration engineer with a Master's degree of business administration. In December 2001, he was appointed as Deputy Director General of China Petrochemical News; in March 2003, he was appointed as Deputy Director General and Chief Editor of China Petrochemical News; in June 2004, he was appointed as Director General and Chief Editor of China Petrochemical News; in December 2004, he was appointed as Director General, Secretary of CPC Committee and Chief Editor of China Petrochemical News; in March 2011, he was appointed as Director General of Corporate Culture Department of Sinopec Corp., and Director General of the Political Work Department of and Deputy Secretary of the CPC Committee directly under China Petrochemical Corporation; in June 2012, he was appointed concurrently as Deputy Director General of Working Committee of Trade Union and Deputy Director of the Youth Working Committee of China Petrochemical Corporation; in March 2015, he was appointed as Director General of Corporate Culture Department of Sinopec Corp. and Director General of Communications Department (Press Office) of China Petrochemical Corporation; in December 2019, he was appointed as Director General of Corporate Culture Department of Sinopec Corp., Director General of Communication Department and Director General of Press Office of China Petrochemical Corporation. In January 2021, he was elected as Employee's Representative Supervisor of Sinopec Corp.

Chen Yaohuan, aged 58, Employee's Representative Supervisor of Sinopec Corp. Mr. Chen is a professor level senior engineer with a Master's degree awarded by Central Party School of the CPC. In October 2008, he was appointed as Deputy Director General of Refining Department of Sinopec Corp.; in March 2015, he was appointed as Executive Director, General Manager and Deputy Secretary of the CPC Committee of Sinopec Beihai Refining and Chemical Limited Liability Company; in May 2015, he was appointed as a member of the Standing Committee of the CPC Beihai Municipal Committee; in June 2018, he was appointed as General Manager and Deputy Secretary of the CPC Committee of Guanzhou Branch of Sinopec Corp. and General Manager of Guangzhou Branch of Sinopec Assets Management Corporation; in July 2019, he was appointed as Deputy Director General (Director General Level) and Chief Engineer of Refining Department of Sinopec Corp.; in October 2019, he was appointed concurrently as Chairman of Sinopec Kantons International Limited and Sinopec Kantons Holdings Limited; in December 2019, he was appointed as General Manager and Chief Engineer of Refining Department of Sinopec Corp.; in December 2019, he was appointed concurrently as Vice Chairman and Chairman of Audit Committee of Yanbu Aramco Sinopec Refining Company Ltd.; in August 2020, he was appointed concurrently as Executive Director and Secretary of CPC Committee of Sinopec Petroleum Marketing Company Limited and Chairman of Sinopec Petroleum Storage and Reserve Limited. In January 2021, he was elected as Employee's Representative Supervisor of Sinopec Corp.

Other Executive Officers

Name	Age	Positions with Sinopec Corp.
Chen Ge	59	Senior Vice President
Yu Xizhi	59	Vice President
Shou Donghua	52	CFO
Zhao Rifeng	59	Vice President
Huang Wensheng	55	Vice President/Secretary to the Board of Directors

Chen Ge, aged 59, Senior Vice President of Sinopec Corp. Mr. Chen is a senior economist with a Master's degree. In February 2000, he was appointed as Deputy Director General of the Board Secretariat of Sinopec Corp.; in December 2001, he was appointed as Director General of the Board Secretariat of Sinopec Corp.; in April 2003, he was appointed as Secretary to the Board of Directors of Sinopec Corp.; from April 2005 to August 2013, he was appointed concurrently as Director General of Corporate Reform & Management Dept. of Sinopec Corp.; in July 2010, he was appointed as Assistant to President of China Petrochemical Corporation; from December 2013 to December 2015, he was appointed temporarily as Deputy Secretary-General of Guizhou Provincial People's Government and a member of the Leading Party Member Group of Guizhou Provincial General Office; in November 2015, he was appointed as Employee's Representative Director of China Petrochemical Corporation; in December 2017, he was appointed concurrently as Director General of Corporate Reform & Management Dept. of Sinopec Corp.; in October 2018, he was appointed as Senior Vice President of Sinopec Corp.; in July 2020, he was appointed concurrently as General counsel.

Yu Xizhi, aged 59, Vice President of Sinopec Corp. Mr Yu is a professor-level senior engineer with a Ph.D. degree in engineering. In August 1997, he was appointed as Deputy General Manager of Anqing Petrochemical General Plant and concurrently as General Manager of Fertiliser Plant; in September 1999, he became a member of the CPC Standing Committee of Anqing Petrochemical General Plant; in February 2000, he was appointed as Deputy General Manager of Sinopec Anqing Company and in September 2000, he was appointed as General Manager of Sinopec Anqing Company; in January 2005, he was appointed as General Manager of Anqing Petrochemical General Plant and from May 2009 to July 2010, he temporarily served as a member of the Standing Committee of the CPC Anqing Municipal Committee; in July 2010, he became General Manager and Deputy Secretary of the CPC Committee of Maoming Petrochemical Company and General Manager of Sinopec Maoming Company; in July 2016, Mr. Yu was appointed as head of Maoming-Zhanjiang Integration Leading Group; in December 2016, he became Executive Director, General Manager and Deputy Secretary of the CPC Committee of Zhongke (Guangdong) Refining and Petrochemical Co., Ltd.; in April 2017, Mr. Yu was appointed as Director General of Human Resources Department of Sinopec Corp.; in June 2017, he was elected as Employee's Representative Supervisor of Sinopec Corp.; in December 2019, he was appointed as President of Human Resource Department of Sinopec Corp. and the Director General of Organization Department of China Petrochemical Corporation; in January 2020, he was elected as Director of China Petrochemical Corporation. In July 2020, he was appointed as Vice President of Sinopec Corp.

Shou Donghua, aged 52, Chief Financial Officer and General Manager of Finance Department of Sinopec Corp. Ms. Shou is a professor level senior accountant with a Master's degree of business administration. In July 2010, she was appointed as the Chief Financial Officer of Sinopec Zhenhai Refining & Chemical Company; in October 2014, she was appointed as Deputy Director General of Human Resource Department of Sinopec Corp.; in August 2017, she was appointed as the Secretary of CPC Committee of Sinopec Zhenhai Refining & Chemical Company and Deputy General Manager of Sinopec Zhenhai Refining & Chemical Company; in August 2018, she was appointed as the Director General of Finance Department of China Petrochemical Corporation and concurrently served as the Chairman of Sinopec Century Bright Capital Investment Limited; in December 2019, she was appointed as General Manager of Finance Department of Sinopec Corp. and concurrently served as the Chairman of Sinopec Century Bright Capital Investment Limited. In January 2020, she was appointed as Chief Financial Officer of Sinopec Corp. and General Manager of Finance Department.

Zhao Rifeng, aged 59, Vice President of Sinopec Corp. Mr. Zhao is a professor level Senior Engineer with a Master's degree. In July 2000, he was appointed as Deputy General Manager of Sinopec Jinling Petrochemical Co., Ltd. and Deputy Manager of Sinopec Jinling Company; in October 2004, he was appointed as General Manager of Sinopec Jinling Company; in October 2006, he was appointed as Vice Chairman and General Manager of Sinopec Jinling Petrochemical Co., Ltd.; in November 2010, he was appointed as Chairman, General Manager, Deputy Secretary of CPC Committee of Sinopec Jinling Petrochemical Co., Ltd.; in August 2013, he was appointed as Director General of Refining Department of Sinopec Corp.; in December 2017, he was appointed as the Director General of the Marketing Department of Sinopec Corp. and Chairman and Secretary of CPC Committee of Sinopec Marketing Company Limited; in December 2019, he was appointed as the President of the Marketing Department of Sinopec Corp. and Chairman and Secretary of CPC Committee of Sinopec Marketing Company Limited. In February 2018, he was appointed as Vice President of Sinopec Corp.

Huang Wensheng, aged 55, Vice President of Sinopec Corp., 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.; in August 2009, he was appointed 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 June 2018, he was appointed concurrently as Director General of Department of Capital Management and Financial Services of China Petrochemical Corporation; in July 2018, he was appointed concurrently as Chairman and Secretary of CPC Committee of Sinopec Capital Co., Ltd.; in December 2019, he was appointed as President of Department of Capital Management and Financial Services of China Petrochemical Corporation. In May 2012, he was appointed as Secretary to the Board of Directors of Sinopec Corp; In May 2014, 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 2021.

Name	Position with the Company	Remuneration paid by the Company in 2021 (RMB in ten thousands before tax)
<u><i>Directors</i></u>		
Ma Yongsheng	Chairman,	71.53
Zhao Dong ⁽¹⁾	Director	—
Yu Baocai	Director, President	44.18
Li Yonglin ⁽²⁾	Director, Senior Vice President	—
Ling Yiqun	Director, Senior Vice President	—
Liu Hongbin	Director, Senior Vice President	—
Cai Hongbin	Independent Director	41.67
Ng, Kar Ling Johnny	Independent Director	41.67
Shi Dan ⁽³⁾	Independent Director	30
Bi Mingjian ⁽⁴⁾	Independent Director	30
<u><i>Supervisors</i></u>		
Zhang Shaofeng ⁽⁵⁾	Chairman of the Board of Supervisors	—
Jiang Zhenying	Supervisor	—
Zhang Zhiguo ⁽⁶⁾	Supervisor	—
Yin Zhaolin ⁽⁷⁾	Supervisor	—
Guo Hongjin ⁽⁸⁾	Supervisor	40.32
Li Defang	Employee Representative Supervisor	29.84
Lv Dapeng	Employee Representative Supervisor	41.72
Chen Yaohuan	Employee Representative Supervisor	116.54
<u><i>Other Executive officers</i></u>		
Chen Ge	Senior Vice President	158.67
Yu Xizhi	Vice President	141.1
Shou Donghua	CFO	129.24
Zhao Rifeng	Vice President	145.19
Huang Wensheng	Vice President/Secretary to the Board of Directors	140.79

Note: (1) Mr. Zhao Dong was elected on May 25, 2021.
(2) Mr. Li Yonglin was elected on May 25, 2021.
(3) Ms. Shi Dan was elected on May 25, 2021.
(4) Ms. Bi Mingjian was elected on May 25, 2021.
(5) Mr. Zhang Shaofeng was elected on May 25, 2021.
(6) Mr. Zhang Zhiguo was elected on May 25, 2021.
(7) Mr. Yin Zhaolin was elected on May 25, 2021.

(8) Mr. Guo Hongjin was elected on May 25, 2021.

C. BOARD PRACTICE

We have ten directors. We have five special board committees, namely the strategic committee, the audit committee, the remuneration and evaluation committee, the nominating committee and sustainable development committee. All members of the audit committee and the majority of the members of the remuneration and evaluation committee and the nominating 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 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 Ma Yongsheng, Yu Baocai, Ling Yiqun, Li Yonglin, Liu Hongbin, Cai Hongbin, Shi Dan and Bi Mingjian.

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 its disclosure; and
- to examine the financial policies, internal auditing, internal control and risk management system.

The members of our audit committee are Ng, Kar Ling Johnny, Cai Hongbin, Shi Dan and Bi Mingjian, all of whom are our Independent Non-executive Directors. Our Board has determined that Ng, Kar Ling Johnny qualifies as an audit committee financial expert.

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 Bi Mingjian, Ma Yongsheng and Ng, Kar Ling Johnny.

The main responsibilities of the nominating committee include:

- to advise the Board on the size and composition of the Board based on the company's business activities, asset size and shareholding structure;
- to review the selection criteria and procedures for directors and senior management, and to make suggestions to the Board; and
- to search in the domestic and overseas talent market and within the Company for qualified candidates, review the director and president candidates, senior vice president candidates, chief financial officer and vice president candidates as suggested by the president, and secretary to the Board as proposed by the chairman, and make recommendations to the Board.

The members of nominating committee are Shi Dan, Ma Yongsheng and Ng, Kar Ling Johnny.

The main responsibilities of the sustainable development committee include:

- make recommendations to the Board on major decisions related to the Company's sustainable development (including environmental, social and governance, etc.);
- supervise the implementation and progress of the Company's sustainable development strategies and plans;
- supervise the Company's commitment and performance on key issues such as climate change, safeguarding health and safety, and fulfilling social responsibilities, and make recommendations to the Board;

- pay attention to important information on sustainable development matters related to the Company's business, study the company's sustainable development-related matters, and make recommendations to the Board;
- review the Company's annual sustainable development report and make recommendations to the board of directors; and
- other matters authorized by the Board.

The members of sustainable development committee are Ma Yongsheng, Zhao Dong, Li Yonglin and Cai Hongbin.

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.

Under 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 shareholders' 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 eight supervisors including three employee representative supervisors. In 2021, some of the supervisors attended the Company's shareholders' meetings and presented at the Company's board meetings, and made assessment on the work of the Board. The supervisors went to the Company's subsidiaries for research, made suggestions to improve management of the Company.

D. EMPLOYEES

As of December 31, 2019, 2020 and 2021, we had approximately 402,206, 384,065 and 385,691 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, 2021.

By Segment	Number of Employees	Percentage of Total Number of Employees (%)
Exploration and production	126,874	33
Refining	57,513	15
Marketing and distribution	122,232	32
Chemicals	67,794	17
Research and Development	6,212	2
Corporate and other	5,066	1
Total	385,691	100

By Employee's Scope of Work	Number of Employees	Percentage of Total Number of Employees (%)
Production	145,786	38
Technical	87,231	22
Sales	110,797	29
Finance	8,612	2
Administration	30,725	8
Others	2,540	1
Total	385,691	100

By Education	Number of Employees	Percentage of Total Number of Employees (%)
Master's degree and above	21,839	6
University	109,327	28
Junior college	87,432	23
Technical secondary school	30,426	8
Senior high school and technical school degree or below	136,667	35
Total	385,691	100

During this report period, there has been no significant change to our core technical team and key technicians.

We have a workers' 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 regulate employee behavior through the "Employee Code of Conduct" and build a good working atmosphere. 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.

E. SHARE OWNERSHIP

As of December 31, 2021, except our director and senior 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 15, 2022.

Shareholder	Number of Shares Owned (in millions)	Percentage of Ownership (%)
Sinopec Group Company ⁽¹⁾	83,363	68.85

(1) Inclusive of 654,034,000 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 15, 2022, 1,103,116,100 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 15, 2022, 11,031,061 ADSs, representing 1,103,116,100 H shares, were held of record by Cede & Co. and 21 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.

In March 2017, 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.

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, Sinopec Group Company issued an undertaking on April 28, 2014, granting us an option, in ten years since the issue date of the undertaking, (1) 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, (2) to require Sinopec Group Company 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. By then, to the extent in compliance with the applicable law and the requirements of the contract and procedures, Sinopec Group Company will sell the oil and gas assets as mentioned in (1) and (2) to us as required.

Sinopec Group Company is controlled by the State-owned Assets Supervision and Administration Commission of the State Council of China.

B. RELATED PARTY TRANSACTIONS

Sinopec Group Company owned 68.85% of our outstanding equity as of April 15, 2022. 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—B. 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, April 20, 2016, April 24, 2017, April 27, 2018, April 29, 2019, April 10, 2020 and April 20, 2021, respectively.

On July 9, 2018, we entered into the Articles of Association of Sinopec Capital Co., Ltd., or Sinopec Capital, with Sinopec Group Company, pursuant to which, we will establish Sinopec Capital with Sinopec Group Company with a registered capital of RMB10 billion, of which, we will subscribe capital contribution of RMB4.9 billion by cash, representing 49% of the registered capital of Sinopec Capital, and Sinopec Group will subscribe capital contribution of RMB5.1 billion by cash, representing 51% of the registered capital of Sinopec Capital. Upon the establishment of Sinopec Capital, its investments will focus on strategic emerging industries, including new energy, new material, energy conservation and environmental protection, and intelligence manufacturing in relation to the industry chain. In respect of the investment projects which are related to our principal business, we will have the right of first refusal to acquire such projects.

On August 24, 2018, we entered into the Continuing Connected Transaction Fifth Supplemental Agreement with Sinopec Group Company, pursuant to which the terms of Continuing Connected Transactions under the Mutual Supply Agreement and the Cultural, Educational, Hygiene and Auxiliary Agreement (formerly named Cultural, Educational, Hygiene and Community Services Agreement) were renewed as January 1, 2019 to December 31, 2021. On October 23, 2018 the First Extraordinary General Meeting of 2018 of the Company approved the Continuing Connected Transactions for the three years ending December 31, 2021. See Exhibit 4.15.4 herewith for details of the Continuing Connected Transactions.

On August 27, 2021, we entered into the Continuing Connected Transaction Sixth Supplemental Agreement with Sinopec Group Company, pursuant to which amendments were made to the terms of certain Continuing Connected Transactions under the Mutual Supply Agreement and the Properties Leasing Agreement. On October 20, 2021, the First Extraordinary General Meeting of 2021 of the Company approved the Continuing Connected Transactions for the three years ending December 31, 2024. See Exhibit 4.15.5 herewith for details of the continuing Connected Transactions.

In 2021, our related connected transactions occurred in accordance with the abovementioned Continuing Connected Transaction agreements amounted to RMB382.445 billion, among which, our purchase amounted to RMB259.882 billion, accounting for 9.35% of the amount of similar transactions, including products and services (purchasing, storage and transportation, exploration and development services, and production-related services) of RMB246.211 billion, auxiliary and community service of RMB1.730 billion, house rental payment of RMB0.565 million, land rental payment of RMB10.831 billion, other rental payment of RMB0.159 billion, and the interest expense of RMB0.386 billion. The amount of our sales was RMB122.563 billion, accounting for 4.25% of the transaction amount of similar transactions, including revenues from primary business of RMB121.676 billion, agency commission income of RMB0.165 billion and interest income of RMB0.722 billion.

On April 29, 2020, Zhongke (Guangdong) Refining and Petrochemical Co., Ltd. (“Zhongke Refining”), a wholly-owned subsidiary of the Company, entered into a merger agreement with Sinopec Zhanjiang Dongxing Petrochemical Company Limited (“Zhanjiang Dongxing”), and the Company entered into a joint venture contract with Sinopec Century Bright Capital Investment Ltd. (“Century Bright Company”), pursuant to which, Zhongke Refining shall absorb and merge Zhanjiang Dongxing and, upon the completion of such transaction, Zhongke Refining will become the owner of all assets and liabilities of Zhanjiang Dongxing and will assume the existing businesses and personnel of Zhanjiang Dongxing with the Company and Century Bright Company holding 90.3% and 9.7% equity interest in Zhongke Refining, respectively.

On October 28, 2020, our board of directors approved the capital increase in Sinopec Baling Petrochemical Company Limited (“Baling Petrochemical”) by the Company with the Sinopec Group Asset Management Co., Ltd. (“Assets Company”) on a pro rata basis. The capital increase in Baling Petrochemical will be contributed by the Company and the Assets Company with an aggregate amount of approximately RMB6.3 billion, of which, the Company will contribute approximately RMB3.5 billion by injecting the relevant assets of the Company. Baling Branch and cash, and the Assets Company will contribute approximately RMB2.8 billion by injecting the relevant assets of Assets Company Baling Branch. Pursuant to the capital increase agreement, the registered capital of Baling Petrochemical will be increased from RMB100 million to RMB3 billion. Upon completion of the capital increase, the shareholders of Baling Petrochemical and their respective shareholdings will remain unchanged, while the Company and the Assets Company will continue to hold 55% and 45% equity interest in Baling Petrochemical, respectively. Baling Petrochemical will remain a subsidiary of the Company.

On March 26, 2021, (i) Sinopec Overseas Investment Holding Limited (“Overseas Investment Company”), a subsidiary of the Company, and Century Bright Company entered into the Agreement on Purchasing Equity Interest in Sinopec Hainan Refining and Chemical Company Limited, pursuant to which Overseas Investment Company proposed to purchase the 25% equity interest in Sinopec Hainan Refining and Chemical Company Limited held by Century Bright Company at a consideration of RMB5,769 million; (ii) the Company and Assets Company entered into the Agreement on Purchasing Equity Interest in Cangzhou Toray Fine Chemical Co., Ltd., pursuant to which the Company proposed to purchase the 40% equity interest in Cangzhou Toray held by Assets Company at a consideration of RMB20 million; (iii) the Company and Assets Company entered into the Agreement on Purchasing the Polypropylene and Utility Business Assets, pursuant to which the Company proposed to purchase the non-equity assets held by Assets Company, including the polypropylene and utility business assets of Cangzhou branch of Assets Company, at a consideration of RMB138 million; (iv) the Company and Beijing Orient Petrochemical Industry Co., Ltd. (“Orient Petrochemical”) entered into the Agreement on Purchasing Equipment and Relevant Assets, pursuant to which the Company proposed to purchase the non-equity assets held by Orient Petrochemical, including inventory and equipment, at a consideration of RMB715 million; and (v) Sinopec Beihai Refining and Chemical Limited Liability Company (“Beihai Refining and Chemical”), a subsidiary of the Company, and Beihai Petrochemical Limited Liability Company of Sinopec Group (“Beihai Petrochemical”) entered into the Agreement on Purchasing Assets of Beihai Petrochemical related to Pier Business, pursuant to which Beihai Refining and Chemical proposed to purchase the non-equity assets held by Beihai Petrochemical, including the pier operation platform, at a consideration of RMB149 million.

On September 7, 2021, Shanghai Petrochemical, a subsidiary of the Company, entered into a Joint Venture Agreement with Sinopec Baling Petrochemical Company Limited, pursuant to which both parties will jointly establish a joint venture and each shall contribute in cash the amount of RMB400 million.

On November 29, 2021, (i) the Company and Sinopec Group Asset Management Co., Ltd. (the “Assets Company”) entered into the Assets Company Agreement, pursuant to which it was agreed that Sinopec Corp. shall purchase the equity assets, non-equity assets and liabilities of the production and operating business held by the Assets Company at the price of RMB4,432.2570 million; (ii) Yizheng Chemical Fibre, a subsidiary of the Company, and Assets Company entered into the Yizheng Chemical Fibre Agreement, pursuant to which it was agreed that Yizheng Chemical Fibre shall purchase the equity assets, non-equity assets and liabilities of the production and operating business held by the Assets Company at the price of RMB1,142.9952 million; (iii) Sinopec Corp. and Group Yanshan entered into the Group Yanshan Agreement, pursuant to which it was agreed that Sinopec Corp. shall purchase the non-equity assets and liabilities of the production and operating business held by Group Yanshan at the price of RMB1,473.6977 million.

The above-mentioned variety of transactions with Sinopec Group Company are in compliance with the upper limit of the amount of related party transactions approved by the shareholders and the Board.

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 dividend distribution policy in articles of association. 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 to be 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 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. The Company will be required to, pursuant to applicable PRC laws and regulations, withhold 10-20% dividend tax (based on the status of the shareholder) for dividends paid to holders of H shares (including ADSs representing such H shares), and make filing pursuant to applicable foreign exchange control procedures for the payment of such dividends. See “Item 10. Additional Information — D. Exchange Controls” and “Item 10. Additional Information — E. Taxation.” In addition, ADS holders will be required to pay applicable service fees in relation to the distribution of cash dividends pursuant to the Deposit Agreement for China Petroleum & Chemical Corporation’s American Depositary Shares. See “Item 12. Description of Securities other than Equity Securities — D. American Depositary Shares.”

At the annual general meeting held on May 25, 2021, our shareholders adopted the distribution of a final cash dividend of RMB0.07 (including tax) per share, combining with an interim distributed dividend of RMB0.13 (including tax) per share, the total dividend for 2020 is RMB0.20 (including tax) per share.

At the 7th meeting of the eighth session of our board, our board approved the proposal to distribute a final cash dividend of RMB0.31 (including tax) per share, combining with an interim distributed dividend of RMB0.16 (including tax) per share, the total dividend for 2021 is RMB0.47 (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).

On 14 February 2013, we issued 2,845,234,000 listed H shares with a par value of RMB1.00 each at the price of HKD 8.45 per share. The aggregate gross proceeds from the placing amounted to approximately HKD 24.0 billion.

On January 26, 2015, the conditional redemption of the 2011 convertible bonds amounting to RMB23 billion, was triggered. As of February 11, 2015 (the redemption registration date), the cumulative conversion of the 2011 convertible bonds to listed A shares is 4,623,769,047 shares, and the balance of registered 2011 convertible bonds is RMB52,766,000. On February 17, 2015, we redeemed the balance plus interests payable at the aggregate amount of RMB53,348,948.28. The 2011 convertible bonds were delisted from the Shanghai Stock Exchange.

ITEM 10. ADDITIONAL INFORMATION

A. SHARE CAPITAL

Not applicable.

B. MEMORANDUM AND ARTICLES OF ASSOCIATION

In 2021, we amended the 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 (2018) 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 13 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, sale 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; manufacturing of equipment, tools, instruments and gauges in petroleum drilling and production; 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 sale 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; manufacturing of food and food additives; residents' services; transportation agency services; warehousing; operation of self-owned properties; leasing of natural gas storage facility; leasing of houses, working places, vehicles and equipment; 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; railway transportation; coastal engineering auxiliary operations, port operations, oil spill response, safety guard, ship pollution removal operations; professional technical service industry quality inspection technical services, environmental and ecological monitoring and testing services; edible salt production, wholesale, retail; shale gas, coalbed methane, shale oil, combustible ice, uranium and other resources exploration, development, storage and transportation, pipeline transportation, sales; natural gas power generation, power supply; power installation and maintenance, power technology development and services. Hydrogen energy businesses and related services such as production, storage, transportation and sales of hydrogen; manufacturing and sales of equipment for hydrogen production, refuelling and storage. Power businesses and related services such as power supply; motor vehicle charging; operation of new energy power generation facilities such as solar power generation and wind power generation facilities, as well as new energy vehicle charging facilities; battery sales; battery swapping for new energy vehicle.

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 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 RMB1 billion, and the president is authorized to approve and execute individual long-term loan agreement with the loan amount not exceeding RMB1 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 percent 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 depository of our ADSs will convert such proceeds into US 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 awards 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 3050 Post Oak Blvd, Suite 800, Houston, Texas, 77056, 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 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 US 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—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 183 days, 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 and December 29, 2018, 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, February 24, 2017 and December 29, 2018, 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 our stock (by vote or value), 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) 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 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 the value of our assets (generally based on the average quarterly value of our assets during the taxable 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, 25% or more (by value) of the stock.

We do not believe that we were classified as a PFIC for the taxable year ended December 31, 2021 and we do not expect to be classified as a PFIC for the current taxable year or for the foreseeable future. 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 (which may be volatile). 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 depository 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 depository, 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 and generally will constitute passive category 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. The gain or loss will generally be capital gain or loss. Individuals and other non-corporate US Holders who have held the H shares or ADSs for more than one year will generally be eligible for reduced tax rates. 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, which will generally limit the availability of foreign tax credits. The deductibility of a capital loss may be subject to limitations.

As described in "Item 10. Additional Information—E. Taxation—PRC Taxation," if we are deemed to be a PRC resident enterprise under the Enterprise Income Tax Law, gains from the disposition of H shares or ADSs, may be subject to PRC income tax and will generally be United States source, which may limit the ability to receive a foreign tax credit. If a US Holder is eligible for the benefits of the U.S.-PRC Treaty, such holder may be able to elect to treat such gain as PRC-source income under the U.S.-PRC Treaty. Pursuant to recently issued United States Treasury regulations, however, if a US Holder is not eligible for the benefits of the U.S.-PRC Treaty or does not elect to apply the U.S.-PRC Treaty, then such holder may not be able to claim a foreign tax credit arising from any PRC tax imposed on the disposition of H shares or ADSs. The rules regarding foreign tax credits and deduction of foreign taxes are complex. US Holders should consult their tax advisors regarding the availability of a foreign tax credit or deduction in light of their particular circumstances, including their eligibility for benefits under the U.S.-PRC Treaty, and the potential impact of the recently issued United States Treasury Regulations.

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 technically 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.

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 SEC 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 40 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 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 us. We use derivative financial instruments, including commodity futures and swaps contracts, to manage a portion of such risk.

As of December 31, 2021, we had certain commodity contracts of crude oil, refined oil products and chemical products designated as qualified cash flow hedges and economic hedges. As of December 31, 2021, the fair value of such derivative hedging financial instruments is derivative financial assets of RMB18,359 million (2020: RMB12,353 million) and derivative financial liabilities of RMB3,214 million (2020: RMB4,808 million).

As of December 31, 2021, 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 our net income for the year by approximately RMB2,996 million (2019: increase/decrease RMB3,592 million), and decrease/ increase our other comprehensive income by approximately RMB1,160 million (2020: increase/ decrease RMB10,379 million). 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 our derivative financial instruments at that date with exposure to commodity price risk. The analysis is performed on the same basis for 2020.

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, 2020 and 2021. 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, 2020 and 2021. For debt obligations, the table presents cash flows and related weighted average rates by expected maturity dates.

	As of December 31, 2021							
	Expected Maturity Date						Total carrying amount	Fair Value
	2022	2023	2024	2025	2026	Thereafter		
	(RMB equivalent in millions, except interest rate)							
Assets								
Cash and cash equivalent								
In US Dollar	46,087	—	—	—	—	—	46,087	46,087
In HK Dollar	4,006	—	—	—	—	—	4,006	4,006
In Japanese Yen	37	—	—	—	—	—	37	37
In Euro	502	—	—	—	—	—	502	502
Others	200	—	—	—	—	—	200	200
Time deposits with financial institutions								
In US Dollar	11,103	—	—	—	—	—	11,103	11,103
Liabilities								
Debts in US Dollar								
Fixed rate	583	7,962	1	1	1	4,382	12,930	11,603
Average interest rate	3.01 %	3.11 %	3.31 %	1.53 %	3.32 %	3.32 %	—	—
Variable rate	362	—	—	—	—	—	362	362
Average interest rate ⁽¹⁾	0.57 %	—	—	—	—	—	—	—
Debts in HK Dollar								
Fixed rate	—	—	—	—	—	—	—	—
Average interest rate	—	—	—	—	—	—	—	—
Variable rate	—	—	—	—	—	—	—	—
Average interest rate ⁽¹⁾	—	—	—	—	—	—	—	—
Debts in Euro								
Fixed rate	152	—	—	—	—	—	152	152
Average interest rate	1.00 %	—	—	—	—	—	—	—
Variable rate	—	—	—	—	—	—	—	—
Average interest rate ⁽¹⁾	—	—	—	—	—	—	—	—

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2021.

	As of December 31, 2020							
	Expected Maturity Date						Total carrying amount	Fair Value
	2021	2022	2023	2024	2025	Thereafter		
	(RMB equivalent in millions, except interest rate)							
Assets								
Cash and cash equivalent								
In US Dollar	27,456	—	—	—	—	—	27,456	27,456
In HK Dollar	1,410	—	—	—	—	—	1,410	1,410
In Japanese Yen	38	—	—	—	—	—	38	38
In Euro	402	—	—	—	—	—	402	402
Others	2,406	—	—	—	—	—	2,406	2,406
Time deposits with financial institutions								
In US Dollar	8,413	—	—	—	—	—	8,413	8,413
Liabilities								
Debts in US Dollar								
Fixed rate	643	13	1	8,140	1	3,247	12,045	12,742
Average interest rate	1.56 %	—	—	1.74 %	—	1.42 %		
Variable rate	2,679	5	5	5	5	1,412	4,111	4,111
Average interest rate ⁽¹⁾	1.12 %	—	—	—	—	1.56 %	—	—
Debts in HK Dollar								
Fixed rate	—	—	—	—	—	—	—	—
Average interest rate	—	—	—	—	—	—	—	—
Variable rate	31	—	—	—	—	—	31	31
Average interest rate ⁽¹⁾	4.35 %	—	—	—	—	—	—	—
Debts in Euro								
Fixed rate	172	—	—	—	—	—	172	172
Average interest rate	0.1 %	—	—	—	—	—	—	—
Variable rate	—	—	—	—	—	—	—	—
Average interest rate ⁽¹⁾	—	—	—	—	—	—	—	—

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2020.

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, 2020 and 2021.

	As of December 31, 2021							
	Expected Maturity Date						Total carrying amount ⁽²⁾	Fair Value
	2022	2023	2024	2025	2026	There-after		
	(RMB equivalent in millions, except interest rate)							
<i>Assets</i>								
<i>Cash and cash equivalent</i>								
In RMB	57,757	—	—	—	—	—	57,757	57,757
In US Dollar	46,087	—	—	—	—	—	46,087	46,087
In HK Dollar	4,006	—	—	—	—	—	4,006	4,006
In Japanese Yen	37	—	—	—	—	—	37	37
In Euro	502	—	—	—	—	—	502	502
Others	200	—	—	—	—	—	200	200
<i>Time deposits with financial institutions</i>								
In RMB	102,296	—	—	—	—	—	102,296	102,296
In US Dollar	11,103	—	—	—	—	—	11,103	11,103
<i>Liabilities</i>								
<i>Debts in RMB</i>								
Fixed rate	25,447	30,233	8,815	12,207	5,991	523	83,216	76,899
Average interest rate	2.79 %	2.54 %	2.56 %	2.28 %	3.02 %	0.59 %		
Variable rate	11,581	8,126	9,967	858	326	2,595	33,453	33,453
Average interest rate ⁽¹⁾	2.68 %	2.60 %	2.56 %	3.84 %	3.74 %	3.72 %		
<i>Debts in US Dollar</i>								
Fixed rate	583	7,962	1	1	1	4,382	12,930	11,603
Average interest rate	3.01 %	3.11 %	3.31 %	1.53 %	3.32 %	3.32 %		
Variable rate	363	—	—	—	—	—	363	363
Average interest rate ⁽¹⁾	0.57 %	—	—	—	—	—	—	—
<i>Debts in HK Dollar</i>								
Fixed rate	—	—	—	—	—	—	—	—
Average interest rate	—	—	—	—	—	—	—	—
Variable rate	—	—	—	—	—	—	—	—
Average interest rate ⁽¹⁾	—	—	—	—	—	—	—	—
<i>Debts in Euro</i>								
Fixed rate	153	—	—	—	—	—	153	153
Average interest rate	1.00 %	—	—	—	—	—	—	—
Variable rate	—	—	—	—	—	—	—	—

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2021.

(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.

	As of December 31, 2020							
			Expected Maturity Date				Total carrying amount ⁽²⁾	Fair value
	2021	2022	2023	2024	2025	There- after		
	(RMB equivalent in millions, except interest rate)							
Assets								
Cash and cash equivalent								
In RMB	55,847	—	—	—	—	—	55,847	55,847
In US Dollar	27,456	—	—	—	—	—	27,456	27,456
In HK Dollar	1,410	—	—	—	—	—	1,410	1,410
In Japanese Yen	38	—	—	—	—	—	38	38
In Euro	402	—	—	—	—	—	402	402
Others	2,406	—	—	—	—	—	2,406	2,406
Time deposits with financial institutions								
In RMB	92,085	—	—	—	—	—	92,085	92,085
In US Dollar	8,413	—	—	—	—	—	8,413	8,413
Liabilities								
Debts in RMB								
Fixed rate	11,882	7,517	32,160	3,508	12,170	679	67,916	63,567
Average interest rate	2.00 %	2.10 %	1.39 %	1.08 %	2.24 %	0.59 %		
Variable rate	13,547	3,065	7,225	1,897	2,502	337	28,573	28,573
Average interest rate ⁽¹⁾	2.94 %	3.03 %	2.81 %	3.32 %	4.32 %	4.75 %		
Debts in US Dollar								
Fixed rate	643	13	1	8,140	1	3,247	12,045	12,742
Average interest rate	1.56 %	—	—	1.74 %	—	1.42 %		
Variable rate	2,679	5	5	5	5	1,412	4,111	4,111
Average interest rate ⁽¹⁾	1.12 %	—	—	—	—	1.56 %	—	—
Debts in HK Dollar								
Fixed rate	—	—	—	—	—	—	—	—
Average interest rate	—	—	—	—	—	—	—	—
Variable rate	31	—	—	—	—	—	31	31
Average interest rate ⁽¹⁾	4.35 %	—	—	—	—	—		
Debts in Euro								
Fixed rate	172	—	—	—	—	—	172	172
Average interest rate	0.1 %	—	—	—	—	—	—	—
Variable rate	—	—	—	—	—	—	—	—
Average interest rate ⁽¹⁾	—	—	—	—	—	—	—	—

(1) The average interest rates for variable rate debts are calculated based on the rates reported as of December 31, 2020.

(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

Depository 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.

Depository Payments for the Year 2021

In 2021, Citibank, N.A., the Depositary for our ADR program, provided reimbursement net of applicable withholding taxes for our expenses related to the listing and investor' relations activities as follows:

- reimbursement of application fees: US\$95,803.27
- reimbursement of data infrastructure fees: US\$85,811.39
- reimbursement of proxy procedure fees: US\$90,612.64
- reimbursement of investor relations expenses (including expenses related to non-deal road show, investor meeting and investor relations agency): US\$231,519.35
- the accounting committee and accounting standard committee of public company: US\$36,117.39
- Total: US\$539,936.04

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 financial 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, 2021 (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, 2021. Based on that evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2021 based on these criteria.

KPMG Huazhen 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.

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
China Petroleum & Chemical Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited China Petroleum & Chemical Corporation and subsidiaries' (the "Company") internal control over financial reporting as at December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as at December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statement of financial position of the Company as at December 31, 2021, the related consolidated income statement, consolidated statement of comprehensive income, cash flows and changes in equity for the year then ended, and the related notes (collectively, the consolidated financial statements), and our report dated April 27, 2022 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. 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 audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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/ KPMG Huazhen LLP
Beijing, China
April 27, 2022

Changes in Internal Control over Financial Reporting

During the year ended December 31, 2021, 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

[Reserved]

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

The board of directors has determined that Mr. Ng, Kar Ling Johnny qualifies as an audit committee financial expert in accordance with the terms of Item 16A. of Form 20-F. Mr. Ng was appointed as an independent non-executive director and a manager of the audit committee of the seventh board of our company in 2018. For Mr. Ng's biographical information, see "Item 6 Directors, Senior Management and Employees—A. Directors, Supervisors 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

PricewaterhouseCoopers Zhong Tian LLP served as our independent accountant for the fiscal year of 2020. KPMG Huazhen LLP served as our independent accountant for the fiscal year of 2021.

The following table presents the aggregate fees paid by us (not including our subsidiaries) for professional audit services, tax and other services rendered by PricewaterhouseCoopers Zhong Tian LLP for the year ended December 31, 2020.

	<u>Audit Fees</u>	<u>Audit-Related Fees</u>	<u>Tax Fees</u>	<u>Other Fees</u>
2020	RMB72.96 million	—	—	RMB7.67 million

The following table presents the aggregate fees paid by us (not including our subsidiaries) for professional audit services, tax and other services rendered by KPMG Huazhen LLP to us for the year ended December 31, 2021.

	<u>Audit Fees</u>	<u>Audit-Related Fees</u>	<u>Tax Fees</u>	<u>Other Fees</u>
2021	RMB59.10 million	—	—	RMB8.11 million

We are allowed to engage our principal accountants to render audit or non-audit services, only after the engagement is 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 and revised in September, 2018 prescribe detailed guidelines on directors of the listed companies, including director selection, duties and responsibilities of directors, director performance evaluation, the structure of the board of directors and rules of procedure for the board of directors, 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 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).	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 position other than board committee member of the listed company, shall not be related to the listed company and its key shareholders in a way which may hinder his/her independent and objective judgement, and shall not be influenced by the main shareholders or the controlling 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, based on actual needs, 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 set up a nominating committee, of which the independent directors are the majority and the convener, and made charters in compliance with corporate governance rules for listed company in China.
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, based on actual needs, 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:	It is stipulated in China that the responsibilities of the compensation and assessment committee are:
(1) review and approve the corporate goals associated with CEO's compensation, evaluate the performance of the CEO in fulfilling these 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, make assessment and submit suggestion to the board of directors;
(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;	(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 performance evaluation of the committee.
(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 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.

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.

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 shall 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 the convener of the audit committee shall be an accounting professional.

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 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.

<p>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.</p>	<p>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.</p>
<p>Each listed company must have an internal audit department.</p>	<p>China has a similar regulatory provision, and the Company has an internal audit department.</p>
<p>Shareholder approval of equity compensation plan</p>	
<p>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.</p>	<p>It is stipulated in China that the compensation of the directors and supervisors shall be approved by the shareholders' meeting. The compensation plan of executive officers shall be approved by the board of directors, illustrate to the shareholders' meeting and fully disclosed to the public.</p>
<p>The Company has complied with the above mentioned laws or rules.</p>	
<p>Code of ethics for directors, officers and employees</p>	
<p>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.</p>	<p>China does not have such requirement for a code for ethics. But our controlling shareholder, Sinopec Group Company, adopted a Staff Code in 2014 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.</p>
<p>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.</p>	<p>No similar requirements.</p>

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, executive officers 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 selection of supervisors of listed companies, the duties and composition of the board of supervisors and adoptions of its meeting procedures, etc.
The Company has complied with the above rules.	

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

ITEM 16I. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

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 October 20, 2021](#)
- 2.1 [Description of rights of each class of securities registered under Section 12 of the Securities Exchange Act of 1934, incorporated by reference to Exhibit 2.1 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 10, 2020 \(File Number: 001-15138\).](#)
- 4.1 [Forms of Director Service Contracts adopted by the Company on 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 adopted by the Company on 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 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).
- 4.4 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).
- 4.5 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).
- 4.6 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).
- 4.7 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).
- 4.8 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).
- 4.9 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).
- 4.10 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).

- 4.11 [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 \(File Number: 001-15138\).](#)
- 4.12 [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 \(File Number: 001-15138\).](#)
- 4.13 [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 \(File Number: 001-15138\).](#)
- 4.14 [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 \(File Number: 001-15138\).](#)
- 4.14.1 [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 \(File Number: 001-15138\).](#)
- 4.14.2 [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 \(File Number: 001-15138\).](#)
- 4.15 [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 \(File Number: 001-15138\).](#)
- 4.15.1 [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 \(File Number: 001-15138\).](#)
- 4.15.2 [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 \(File Number: 001-15138\).](#)
- 4.15.3 [Continuing Connected Transactions Fourth Supplemental Agreement Between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 26, 2015 \(English translation\), 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 \(File Number: 001-15138\).](#)
- 4.15.4 [Continuing Connected Transactions Fifth Supplemental Agreement Between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 24, 2018 \(English translation\), incorporated by reference to Exhibit 4.15.4 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 29, 2019](#)
- 4.15.5* [Continuing Connected Transaction Sixth Supplemental Agreement Between China Petrochemical Corporation and China Petroleum & Chemical Corporation dated August 27, 2021 \(English translation\)](#)
- 4.16 [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/A filed with the Securities and Exchange Commission on September 26, 2013 \(File Number: 001-15138\).](#)

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4.16.1	Undertakings from China Petrochemical Corporation Regarding Further Avoiding Competition with China Petroleum & Chemical Corporation dated April 28, 2014 (English translation), incorporated by reference to Exhibit 4.21.1 to our Annual Report on Form 20-F filed with the Securities and Exchange Commission on April 10, 2015 (File Number: 001-15138).
4.17	Agreement on Additional Issuance of Equity to Purchase Relevant Oil and Gas Pipeline Assets, dated July 23, 2020, between China Oil & Gas Pipeline Network Corporation and China Petroleum & Chemical Corporation (English Translation)
4.17.1	Agreement on Additional Issuance of Equity and Cash Payment to Purchase Relevant Oil and Gas Pipeline Assets, dated July 23, 2020, between China Oil & Gas Pipeline Network Corporation and Sinopec Natural Gas Limited Company (English Translation)
4.17.2	Agreement on Cash Payment to Purchase Relevant Oil and Gas Pipeline Assets, dated July 23, 2020, between China Oil & Gas Pipeline Network Corporation and Sinopec Marketing Co., Limited (English Translation)
4.17.3	Agreement on Cash Payment to Purchase 100% Equity in Sinopec Yu Ji Company, dated July 21, 2020, between China Oil & Gas Pipeline Network Corporation and Sinomart KTS Development Limited (English Translation)
4.18	Framework Agreement regarding Production and Operation of Oil and Gas Pipeline Facilities, dated August 13, 2020, between China Petroleum & Chemical Corporation and China Oil & Gas Pipeline Network Corporation (English Translation)
8.1*	A list of the Registrant's subsidiaries.
12.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as amended.
12.2*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as amended.
12.3*	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as amended.
13**	Certification of CEO and CFO pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and Rule 13a-14(b) under the Securities Exchange Act of 1934, as amended.
101.INS*	Inline XBRL Instance Document -this instance document does not appear in the Interactive Data File because its XBRL tags embedded within the Inline XBRL document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Labels Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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

** 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: Vice President and Secretary to the Board of Directors

Date: April 28, 2022

CHINA PETROLEUM & CHEMICAL CORPORATION
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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
China Petroleum & Chemical Corporation:

Opinion on the Financial Statements

We have audited the accompanying consolidated statement of financial position of China Petroleum & Chemical Corporation and subsidiaries (the Company) as at December 31, 2021, the related consolidated income statement, consolidated statement of comprehensive income, cash flows and changes in equity for the year then ended, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as at December 31, 2021, and the results of its operations and its cash flows for the year ended December 31, 2021, in conformity with International Financial Reporting Standards as issued by International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as at December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated April 27, 2022 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Report of Independent Registered Public Accounting Firm (CONTINUED)

Assessment of impairment of property, plant and equipment relating to oil and gas producing activities

The critical audit matter

As discussed in notes 2(g), 2(n), 8, 18 and 41 to the consolidated financial statements, the Company reported property, plant and equipment of Renminbi (“RMB”) 598,925 million as at December 31, 2021, a portion of which related to oil and gas producing activities. The Company reported impairment losses of RMB 2,467 million for the property, plant and equipment relating to oil and gas producing activities for the year ended December 31, 2021.

The Company groups property, plant and equipment relating to oil and gas producing activities into cash-generating units (“CGUs”) for impairment assessment. The Company compares the carrying amount of individual CGU with its value in use, using a discounted cash flow forecast, which was prepared based on the future production profiles included in the oil and gas reserves reports, to determine the impairment loss to be recognized.

We identified assessment of impairment of property, plant and equipment relating to oil and gas producing activities as a critical audit matter. The value in use amounts of these CGUs are sensitive to the changes to future selling prices and production costs for crude oil and natural gas, future production profiles, and discount rates. Therefore a higher degree of subjective auditor judgment was required to evaluate the Company’s impairment assessment of property, plant and equipment relating to oil and gas producing activities.

How the matter was addressed in our audit

The following are the primary procedures we performed to address this critical audit matter:

- we evaluated the design and tested the operating effectiveness of certain internal controls related to the process for impairment assessment of property, plant and equipment relating to oil and gas producing activities;
- we assessed the competence, capabilities and objectivity of the Company’s reserves specialists and evaluated the methodology adopted by them in estimating the oil and gas reserves against the recognized industry standards;
- we compared future selling prices for crude oil and natural gas used in the discounted cash flow forecasts with the Company’s business plans and forecasts by external analysts;
- we compared future production costs and future production profiles used in the discounted cash flow forecasts with oil and gas reserves reports issued by the reserves specialists; and
- we involved valuation professionals with specialized skills and knowledge, who assisted in assessing the discount rates applied in the discounted cash flow forecasts against a discount rate range that was independently developed using publicly available market data for comparable companies in the same industry.

/s/ **KPMG Huazhen LLP**

Beijing, China
April 27, 2022

We have served as the Company’s auditor since 2021.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of China Petroleum & Chemical Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated statement of financial position of China Petroleum & Chemical Corporation and its subsidiaries (the “Company”) as of December 31, 2020, and the related consolidated income statement, consolidated statement of comprehensive income, of changes in equity and of cash flows for each of the two years in the period ended December 31, 2020, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2020 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers Zhong Tian LLP

Shanghai, the People's Republic of China

March 26, 2021, except for the effects of the business combination under common control discussed in Note 35 to the consolidated financial statements, as to which the date is April 27, 2022

We served as the Company's auditor from 2013 to 2021.

CHINA PETROLEUM & CHEMICAL CORPORATION

CONSOLIDATED INCOME STATEMENT
FOR THE YEARS ENDED DECEMBER 31, 2019, 2020 AND 2021
(Amounts in million, except per share data)

	Notes	Years ended December 31,		
		2019 RMB	2020 RMB	2021 RMB
Revenue				
Revenue from primary business	3	2,899,382	2,048,654	2,679,500
Other operating revenues	4	58,486	56,070	61,384
		2,957,868	2,104,724	2,740,884
Operating expenses				
Purchased crude oil, products and operating supplies and expenses		(2,367,533)	(1,589,821)	(2,076,665)
Selling, general and administrative expenses	5	(54,390)	(53,668)	(54,978)
Depreciation, depletion and amortization		(109,643)	(107,461)	(115,680)
Exploration expenses, including dry holes		(10,510)	(9,716)	(12,382)
Personnel expenses	6	(83,054)	(87,525)	(103,492)
Taxes other than income tax	7	(244,602)	(235,018)	(259,032)
Impairment losses on trade and other receivables		(1,264)	(2,066)	(2,311)
Other operating income /(expenses), net	8	(356)	(5,780)	(21,716)
Total operating expenses		(2,871,352)	(2,091,055)	(2,646,256)
Operating income		86,516	13,669	94,628
Finance costs				
Interest expense	9	(17,091)	(15,198)	(15,018)
Interest income		7,210	4,803	5,732
Foreign currency exchange (losses)/gains, net		(170)	885	276
Net finance costs		(10,051)	(9,510)	(9,010)
Investment income	10	919	37,744	298
Share of profits less losses from associates and joint ventures	22,23	12,777	6,712	23,253
Earnings before income tax		90,161	48,615	109,169
Income tax expense	11	(18,054)	(6,344)	(23,318)
Net income		72,107	42,271	85,851
Attributable to:				
Owners of the Company		57,517	33,443	71,975
Non-controlling interests		14,590	8,828	13,876
Net income		72,107	42,271	85,851
Earnings per share:				
Basic	13	0.48	0.28	0.59
Diluted	13	0.48	0.28	0.59

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2019, 2020 AND 2021
(Amounts in million)

	Notes	Years ended December 31,		
		2019 RMB	2020 RMB	2021 RMB
Net income		<u>72,107</u>	<u>42,271</u>	<u>85,851</u>
Other comprehensive income:	12			
<i>Items that may not be reclassified subsequently to profit or loss</i>				
Equity investments at fair value through other comprehensive income		(31)	(22)	(4)
Total items that may not be reclassified subsequently to profit or loss		<u>(31)</u>	<u>(22)</u>	<u>(4)</u>
<i>Items that may be reclassified subsequently to profit or loss</i>				
Cost of hedging reserve		—	162	(220)
Share of other comprehensive loss of associates and joint ventures		(810)	(2,441)	441
Cash flow hedges		4,941	7,073	19,018
Foreign currency translation differences		1,480	(4,457)	(1,728)
Total items that may be reclassified subsequently to profit or loss		<u>5,611</u>	<u>337</u>	<u>17,511</u>
Total other comprehensive income		<u>5,580</u>	<u>315</u>	<u>17,507</u>
Total comprehensive income for the year		<u><u>77,687</u></u>	<u><u>42,586</u></u>	<u><u>103,358</u></u>
Attributable to:				
Owners of the Company		62,932	34,837	89,549
Non-controlling interests		14,755	7,749	13,809
Total comprehensive income for the year		<u><u>77,687</u></u>	<u><u>42,586</u></u>	<u><u>103,358</u></u>

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
AS AT DECEMBER 31, 2020 AND 2021
(Amounts in million)

ASSETS	Notes	December 31,	
		2020 RMB	2021 RMB
Current assets			
Cash and cash equivalents		87,559	108,590
Time deposits with financial institutions		100,498	113,399
Financial assets at fair value through profit or loss		1	—
Derivative financial assets	14	12,528	18,371
Trade accounts receivable	15	35,439	34,861
Financial assets at fair value through other comprehensive income	24	8,735	5,939
Inventories	16	152,191	207,433
Prepaid expenses and other current assets	17	58,709	69,431
Total current assets		455,660	558,024
Non-current assets			
Property, plant and equipment, net	18	593,615	598,925
Construction in progress	19	125,525	155,939
Right-of-use assets	20	266,012	268,408
Goodwill	21	8,620	8,594
Interest in associates	22	136,163	148,729
Interest in joint ventures	23	52,179	60,450
Financial assets at fair value through other comprehensive income	24	1,525	767
Deferred tax assets	25	25,054	19,389
Long-term prepayments and other assets	26	74,543	70,030
Total non-current assets		1,283,236	1,331,231
Total assets		1,738,896	1,889,255
LIABILITIES AND EQUITY			
Current liabilities			
Short-term debts	27	23,769	35,252
Loans from Sinopec Group Company and fellow subsidiaries	27	5,264	2,873
Lease liabilities	28	15,293	15,173
Derivative financial liabilities	14	4,826	3,223
Trade accounts payable and bills payable	29	161,908	215,640
Contract liabilities	30	126,241	124,622
Other payables	31	179,108	239,688
Income tax payable		6,586	4,809
Total current liabilities		522,995	641,280
Non-current liabilities			
Long-term debts	27	72,037	78,300
Loans from Sinopec Group Company and fellow subsidiaries	27	11,778	13,690
Lease liabilities	28	171,740	170,233
Deferred tax liabilities	25	8,124	7,910
Provisions	32	45,552	43,525
Other long-term liabilities		18,968	19,243
Total non-current liabilities		328,199	332,901
Total liabilities		851,194	974,181
Equity			
Share capital	33	121,071	121,071
Reserves	43	625,254	653,111
Total equity attributable to owners of the Company		746,325	774,182
Non-controlling interests		141,377	140,892
Total equity		887,702	915,074
Total liabilities and equity		1,738,896	1,889,255

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2019, 2020 AND 2021
(Amounts in million)

	Share capital RMB	Capital reserve RMB	Share premium RMB	Statutory surplus reserve RMB	Discretionary 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 at December 31, 2018	121,071	26,788	55,850	86,678	117,000	(4,477)	315,167	718,077	139,921	857,998
Adjustment for business combination of entities under common control (Note 35)	—	4,729	—	—	—	—	—	4,729	1	4,730
Balance as at January 1, 2019	121,071	31,517	55,850	86,678	117,000	(4,477)	315,167	722,806	139,922	862,728
Net income	—	—	—	—	—	—	57,517	57,517	14,590	72,107
Other comprehensive income (Note 12)	—	—	—	—	—	5,415	—	5,415	165	5,580
Total comprehensive income for the year	—	—	—	—	—	5,415	57,517	62,932	14,755	77,687
Amounts transferred to initial carrying amount of hedged items	—	—	—	—	—	1,038	—	1,038	55	1,093
Transactions with owners, recorded directly in equity:										
Contributions by and distributions to owners:										
Final dividend for 2018	—	—	—	—	—	—	(31,479)	(31,479)	—	(31,479)
Interim dividend for 2019	—	—	—	—	—	—	(14,529)	(14,529)	—	(14,529)
Appropriation (Note 43(c))	—	—	—	3,745	—	—	(3,745)	—	—	—
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	(18,989)	(18,989)
Contributions to subsidiaries from non-controlling interests	—	—	—	—	—	—	—	—	5,495	5,495
Total contributions by and distributions to owners	—	—	—	3,745	—	—	(49,753)	(46,008)	(13,494)	(59,502)
Transaction with non-controlling interests	—	2,933	—	—	—	—	—	2,933	(2,933)	—
Total transactions with owners	—	2,933	—	3,745	—	—	(49,753)	(43,075)	(16,427)	(59,502)
Others	—	53	—	—	—	(35)	—	18	54	72
Balance as at December 31, 2019	121,071	34,503	55,850	90,423	117,000	1,941	322,931	743,719	138,359	882,078

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)
FOR THE YEARS ENDED DECEMBER 31, 2019, 2020 AND 2021
(Amounts in million)

	Share capital RMB	Capital reserve RMB	Share premium RMB	Statutory surplus reserve RMB	Discretionary 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 at January 1, 2020	121,071	34,503	55,850	90,423	117,000	1,941	322,931	743,719	138,359	882,078
Net income	—	—	—	—	—	—	33,443	33,443	8,828	42,271
Other comprehensive income (Note 12)	—	—	—	—	—	1,406	(12)	1,394	(1,079)	315
Total comprehensive income for the year	—	—	—	—	—	1,406	33,431	34,837	7,749	42,586
Amounts transferred to initial carrying amount of hedged items	—	—	—	—	—	(47)	—	(47)	48	1
Transactions with owners, recorded directly in equity:										
Contributions by and distributions to owners:										
Final dividend for 2019	—	—	—	—	—	—	(23,004)	(23,004)	—	(23,004)
Interim dividend for 2020	—	—	—	—	—	—	(8,475)	(8,475)	—	(8,475)
Appropriation (Note 43 (c))	—	—	—	1,857	—	—	(1,857)	—	—	—
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	(6,726)	(6,726)
Contributions to subsidiaries from non-controlling interests	—	—	—	—	—	—	—	—	3,325	3,325
Distribution to SAMC in the Acquisition of Baling Branch of SAMC (Note 35)	—	(972)	—	—	—	—	—	(972)	972	—
Total contributions by and distributions to owners	—	(972)	—	1,857	—	—	(33,336)	(32,451)	(2,429)	(34,880)
Transaction with non-controlling interests	—	(138)	—	—	—	—	—	(138)	13	(125)
Total transactions with owners	—	(1,110)	—	1,857	—	—	(33,336)	(32,589)	(2,416)	(35,005)
Others	—	870	—	—	—	200	(665)	405	(2,363)	(1,958)
Balance as at December 31, 2020	121,071	34,263	55,850	92,280	117,000	3,500	322,361	746,325	141,377	887,702

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)
FOR THE YEARS ENDED DECEMBER 31, 2019, 2020 AND 2021
(Amounts in million)

	Share capital RMB	Capital reserve RMB	Share premium RMB	Statutory surplus reserve RMB	Discretionary 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 at January 1, 2021	121,071	34,263	55,850	92,280	117,000	3,500	322,361	746,325	141,377	887,702
Net income	—	—	—	—	—	—	71,975	71,975	13,876	85,851
Other comprehensive income (Note 12)	—	—	—	—	—	17,574	—	17,574	(67)	17,507
Total comprehensive income for the year	—	—	—	—	—	17,574	71,975	89,549	13,809	103,358
Amounts transferred to initial carrying amount of hedged items	—	—	—	—	—	(19,302)	—	(19,302)	(648)	(19,950)
Transactions with owners, recorded directly in equity:										
Contributions by and distributions to owners:										
Final dividend for 2020	—	—	—	—	—	—	(15,739)	(15,739)	—	(15,739)
Interim dividend for 2021	—	—	—	—	—	—	(19,371)	(19,371)	—	(19,371)
Appropriation (Note 43 (c))	—	—	—	3,944	—	—	(3,944)	—	—	—
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	(8,982)	(8,982)
Contributions to subsidiaries from non-controlling interests	—	—	—	—	—	—	—	—	1,973	1,973
Distribution to sellers in the business combination of entities under common control (Note 35)	—	(6,124)	—	—	—	—	—	(6,124)	—	(6,124)
Total contributions by and distributions to owners	—	(6,124)	—	3,944	—	—	(39,054)	(41,234)	(7,009)	(48,243)
Transaction with non-controlling interests	—	(1,396)	—	—	—	—	—	(1,396)	(6,796)	(8,192)
Total transactions with owners	—	(7,520)	—	3,944	—	—	(39,054)	(42,630)	(13,805)	(56,435)
Others	—	319	—	—	—	723	(802)	240	159	399
Balance as at December 31, 2021	121,071	27,062	55,850	96,224	117,000	2,495	354,480	774,182	140,892	915,074

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION

CONSOLIDATED STATEMENT OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31, 2019, 2020 AND 2021

(Amounts in million)

	Note	Years ended December 31,		
		2019 RMB	2020 RMB	2021 RMB
Net cash generated from operating activities	(a)	154,380	168,520	225,174
Investing activities				
Capital expenditure		(130,328)	(118,321)	(127,965)
Exploratory wells expenditure		(11,497)	(13,315)	(16,956)
Purchase of investments		(3,483)	(6,040)	(4,935)
Payment for financial assets at fair value through profit or loss		(12,851)	(6,700)	(8,150)
Proceeds from settlement of financial assets at fair value through profit or loss		35,292	10,000	8,248
Payment for acquisition of subsidiary, net of cash acquired		(1,031)	(340)	(1,106)
Proceeds from disposal of investments		704	51,520	6,769
Proceeds from disposal of property, plant, equipment and other non-current assets		717	2,656	1,478
Increase in time deposits with maturities over three months		(103,231)	(84,689)	(50,844)
Decrease in time deposits with maturities over three months		90,710	54,950	34,298
Interest received		7,094	2,305	3,372
Investment and dividend income received		10,272	11,510	10,134
(Payments of) / proceeds from other investing activities		(3,682)	(6,186)	459
Net cash used in investing activities		(121,314)	(102,650)	(145,198)
Financing activities				
Proceeds from bank and other loans		602,576	558,680	356,459
Repayments of bank and other loans		(614,215)	(540,015)	(338,232)
Contributions to subsidiaries from non-controlling interests		3,919	4,219	1,001
Dividends paid by the Company		(46,008)	(31,479)	(35,110)
Distributions by subsidiaries to non-controlling interests		(7,858)	(4,821)	(8,068)
Interest paid		(6,253)	(7,512)	(5,849)
Payments made to acquire non-controlling interests		(8)	(1,121)	(8,198)
Repayments of lease liabilities		(16,859)	(15,327)	(19,412)
Proceeds from other financing activities		338	700	133
Repayments of other financing activities		(334)	(834)	(666)
Net cash used in financing activities		(84,702)	(37,510)	(57,942)
Net (decrease)/increase in cash and cash equivalents		(51,636)	28,360	22,034
Cash and cash equivalents as at January 1		111,927	60,438	87,559
Effect of foreign currency exchange rate changes		147	(1,239)	(1,003)
Cash and cash equivalents as at December 31		60,438	87,559	108,590

See accompanying notes to consolidated financial statements.

CHINA PETROLEUM & CHEMICAL CORPORATION

NOTES TO CONSOLIDATED STATEMENT OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2019, 2020 AND 2021
(Amounts in million)

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

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Operating activities			
Earnings before income tax	90,161	48,615	109,169
Adjustment for:			
Depreciation, depletion and amortization	109,643	107,461	115,680
Dry hole costs written off	5,831	5,928	7,702
Income from associates and joint ventures	(12,777)	(6,712)	(23,253)
Investment income	(919)	(37,744)	(298)
Interest income	(7,210)	(4,803)	(5,732)
Interest expense	17,091	15,198	15,018
Loss/(gain) on foreign currency exchange rate changes and derivative financial instruments	3,624	2,003	(3,723)
Loss/(gain) on disposal of property, plant, equipment and other non-current assets, net	1,829	(398)	3,062
Impairment losses on assets	1,790	26,087	13,165
Impairment losses on trade and other receivables	1,264	2,066	2,311
	<u>210,327</u>	<u>157,701</u>	<u>233,101</u>
Net changes from:			
Accounts receivable and other current assets	(11,803)	(17,610)	(8,177)
Inventories	(10,019)	22,407	(58,372)
Accounts payable and other current liabilities	(14,487)	15,169	82,408
	<u>174,018</u>	<u>177,667</u>	<u>248,960</u>
Income tax paid	(19,638)	(9,147)	(23,786)
Net cash generated from operating activities	<u>154,380</u>	<u>168,520</u>	<u>225,174</u>

See accompanying notes to consolidated financial statements.

1 PRINCIPAL ACTIVITIES, ORGANIZATION AND BASIS OF PREPARATION

Principal activities

China Petroleum & Chemical Corporation (the “Company”) is an energy and chemical company incorporated in the People’s Republic of China (the “PRC”) that, through its subsidiaries (hereinafter collectively referred to as the “Group”), engages in oil and gas and chemical operations. 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 on 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

The accompanying consolidated financial statements have been prepared in accordance with all 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 April 27, 2022.

The accounting policies adopted are consistent with those of the previous financial year, except for the adoption of new and amended standards as set out below.

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

The IASB has issued the following amendments to IFRSs that are first effective for the current accounting period of the Group:

- Amendment to IFRS 16, COVID-19-related rent concessions
- Amendment to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16, interest rate benchmark reform – phase 2

None of these developments have had a material effect on how the Group’s results and financial position for the current or prior periods have been prepared or presented. The Group has not applied 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

Certain new accounting standards and interpretations have been published that are not mandatory for December 31, 2021 reporting periods and have not been early adopted by the Group. These standards are not expected to have a material impact on the entity in the current or future reporting periods and on foreseeable future transactions.

1 PRINCIPAL ACTIVITIES, ORGANIZATION AND BASIS OF PREPARATION (Continued)

Basis of preparation (Continued)

The preparation of the consolidated financial statements in accordance with IFRS 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 consolidated financial statements and the reported amounts of revenues and expenses during the period. 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 IFRS that have significant effect on the consolidated financial statements and the major sources of estimation uncertainty are disclosed in Note 41.

2 SIGNIFICANT ACCOUNTING POLICIES

(a) Basis of consolidation

The consolidated financial statements comprise the Company and its subsidiaries, and 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. When assessing whether the Group has power, only substantive rights (held by the Group and other parties) are considered.

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 date of statement of financial position, 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 statement of financial position 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 income statement 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.

If a business combination involving entities not under common control is achieved in stages, the acquisition date carrying value of the acquirer's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date. Any gains or losses arising from such remeasurement are recognized in the consolidated income statement.

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(j)) or, when appropriate, the cost on initial recognition of an investment in an associate or joint venture (Note 2(a)(ii)).

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(a) Basis of consolidation (Continued)

In the Company's statement of financial position, investments in subsidiaries are stated at cost less impairment losses (Note 2(n)).

The particulars of the Group's principal subsidiaries are set out in Note 39.

(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 and separate 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 (Notes 2(i) and (n)).

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 income statement, 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's share of losses exceeds its interest in the associate or the joint venture, the Group's interest is reduced to nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the investee. For this purpose, the Group's interest is the carrying amount of the investment under the equity method, together with any other long-term interests that in substance form part of the Group's net investment in the associate or the joint venture, after applying the expected credit losses ("ECLs") model to such other long-term interests where applicable.

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(j)) or, when appropriate, the cost on initial recognition of an investment in an associate.

(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.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(a) Basis of consolidation (Continued)

The consolidated income statement 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 beginning of the earliest period presented 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 date of the statement of financial position.

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

The results of foreign operations are translated into Renminbi at the applicable rates quoted by the PBOC prevailing on the transaction dates. The statement of financial position items, including goodwill arising on consolidation of foreign operations are translated into Renminbi at the closing foreign exchange rates at the date of the statement of financial position. The income and expenses of foreign operations are translated into Renminbi at the spot exchange rates or an exchange rate that approximates 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 income statement 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 recognized initially at their transaction price, unless they contain significant financing components when they are recognized at fair value. They are subsequently measured at amortized cost using the effective interest method, less loss allowances for ECLs (Note 2(j)). 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 mainly 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.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(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(n)). 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 income statement 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 income statement 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 to explore for or use oil and natural gas, 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) 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(n)). 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.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(i) 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(n)). In respect of associates or 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(n)).

(j) Financial assets

(i) Classification and measurement

The Group classifies financial assets into different categories depending on the business model for managing the financial assets and the contractual terms of cash flows of the financial assets: a) financial assets measured at amortized cost, b) financial assets measured at fair value through other comprehensive income ("FVOCI"), c) financial assets measured at fair value through profit or loss. A contractual cash flow characteristic which could have only a de minimis effect, or could have an effect that is more than de minimis but is not genuine, does not affect the classification of the financial asset.

Financial assets are initially recognized at fair value. For financial assets measured at fair value through profit or loss, the relevant transaction costs are recognized in profit or loss. The transaction costs for other financial assets are included in the initially recognized amount. However, trade accounts receivable and bills receivable arising from sale of goods or rendering services, without significant financing component, are initially recognized based on the transaction price expected to be entitled by the Group.

Debt instruments

Debt instruments held by the Group mainly includes cash and cash equivalents, time deposits with financial institutions, receivables. These financial assets are measured at amortized cost and FVOCI.

- Amortized cost: The business model for managing such financial assets by the Group are held for collection of contractual cash flows. The contractual cash flow characteristics are to give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. Interest income from these financial assets is recognized using the effective interest rate method.
- FVOCI: The business model for managing such financial assets by the Group are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest on the principal amount outstanding. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment gains or losses, foreign exchange gains and losses and interest income calculated using the effective interest rate method, which are recognized in profit or loss.

Equity instruments

Equity instruments that the Group has no power to control, jointly control or exercise significant influence over, are measured at fair value through profit or loss and presented in financial assets at fair value through profit or loss.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(j) Financial assets (Continued)

In addition, the Group designates some equity instruments that are not held for trading as financial assets at FVOCI, are presented in financial assets at FVOCI. The relevant dividends of these financial assets are recognized in profit or loss. When derecognized, the cumulative gain or loss previously recognized in other comprehensive income is transferred to retained earnings.

(ii) Impairment

The Group recognizes a loss allowance for ECLs on a financial asset that is measured at amortized cost and a debt instrument that is measured at FVOCI.

The Group measures and recognizes ECLs, considering reasonable and supportable information about the relevant past events, current conditions and forecasts of future economic conditions.

The Group measures the ECLs of financial instruments on different stages at each the date of the statement of financial position. For financial instruments that have no significant increase in credit risk since the initial recognition, on first stage, the Group measures the loss allowance at an amount equal to 12-month ECLs. If there has been a significant increase in credit risk since the initial recognition of a financial instrument but credit impairment has not occurred, on second stage, the Group recognizes a loss allowance at an amount equal to lifetime ECLs. If credit impairment has occurred since the initial recognition of a financial instrument, on third stage, the Group recognizes a loss allowance at an amount equal to lifetime ECLs.

For financial instruments that have low credit risk at the date of the statement of financial position, the Group assumes that there is no significant increase in credit risk since the initial recognition, and measures the loss allowance at an amount equal to 12-month ECLs.

For financial instruments on the first stage and the second stage, and that have low credit risk, the Group calculates interest income according to carrying amount without deducting the impairment allowance and effective interest rate. For financial instruments on the third stage, interest income is calculated according to the carrying amount minus amortized cost after the provision of impairment allowance and effective interest rate.

For trade accounts receivable and bills receivable and financial assets at FVOCI related to revenue, the Group measures the loss allowance at an amount equal to lifetime ECLs.

The Group recognizes the loss allowance accrued or written back in profit or loss.

(iii) Derecognition

The Group derecognizes a financial asset when: a) the contractual right to receive cash flows from the financial asset expires; b) the Group transfers the financial asset and substantially all the risks and rewards of ownership of the financial asset; c) the financial asset has been transferred and the Group neither transfers nor retains substantially all the risks and rewards of ownership of the financial asset, but the Group has not retained control.

On derecognition of equity instruments at FVOCI, the amount accumulated in the fair value reserve is transferred to retained earnings. It is not recycled through profit or loss. While on derecognition of other financial assets, this difference is recognized in profit or loss.

(iv) Financial guarantees issued

Financial guarantees are contracts that require the issuer (i.e. the guarantor) to make specified payments to reimburse the beneficiary of the guarantee (the "holder") for a loss the holder incurs because a specified debtor fails to make payment when due in accordance with the terms of a debt instrument.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(j) Financial assets (Continued)

Financial guarantees issued are initially recognized at fair value, which is determined by reference to fees charged in an arm's length transaction for similar services, when such information is obtainable, or to interest rate differentials, by comparing the actual rates charged by lenders when the guarantee is made available with the estimated rates that lenders would have charged, had the guarantees not been available, where reliable estimates of such information can be made. Where consideration is received or receivable for the issuance of the guarantee, the consideration is recognized in accordance with the Group's policies applicable to that category of asset. Where no such consideration is received or receivable, an immediate expense is recognized in profit or loss.

Subsequent to initial recognition, the amount initially recognized as deferred income is amortized in profit or loss over the term of the guarantee as income from financial guarantees issued.

The Group monitors the risk that the specified debtor will default on the contract and recognizes a provision when ECLs on the financial guarantees are determined to be higher than the carrying amount in respect of the guarantees (i.e. the amount initially recognized, less accumulated amortization).

(k) Financial liabilities

The Group, at initial recognition, classifies financial liabilities as either financial liabilities subsequently measured at amortized cost or financial liabilities at fair value through profit or loss.

The Group's financial liabilities are mainly financial liabilities measured at amortized cost, including trade accounts payable and bills payable, other payables, and loans, etc. These financial liabilities are initially measured at the amount of their fair value after deducting transaction costs and use the effective interest rate method for subsequent measurement.

Where the present obligations of financial liabilities are completely or partially discharged, the Group derecognizes these financial liabilities or discharged parts of obligations. The differences between the carrying amounts and the consideration received are recognized in profit or loss.

(l) Determination of fair value for financial instruments

If there is an active market for financial instruments, the quoted price in the active market is used to measure fair values of the financial instruments. If no active market exists for financial instruments, valuation techniques are used to measure fair values. In valuation, the Group adopts valuation techniques that are applicable in the current situation and have sufficient available data and other information to support it, and selects input values that are consistent with the asset or liability characteristics considered by market participants in the transaction of relevant assets or liabilities, and gives priority to relevant observable input values. Use of unobservable input values where relevant observable input values cannot be obtained or are not practicable.

(m) Derivative financial instruments and hedge accounting

Derivative financial instruments are recognized initially at fair value. At each date of the statement of financial position, the fair value is remeasured. The gain or loss on remeasurement to fair value is recognized immediately in profit or loss, except where the derivatives qualify for hedge accounting.

Hedge accounting is a method which recognizes the offsetting effects on profit or loss (or other comprehensive income) of changes in the fair values of the hedging instrument and the hedged item in the same accounting period, to represent the effect of risk management activities.

Hedged items are the items that expose the Group to risks of changes in future cash flows and that are designated as being hedged and that must be reliably measurable. The Group's hedged items include a forecast transaction that is settled with an undetermined future market price and exposes the Group to risk of variability in cash flows, etc.

A hedging instrument is a designated derivative whose changes in cash flows are expected to offset changes in cash flows of the hedged item.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(m) Derivative financial instruments and hedge accounting (Continued)

The hedging relationship meets all of the following hedge effectiveness requirements:

(i) There is an economic relationship between the hedged item and the hedging instrument, which shares a risk and that gives rise to opposite changes in fair value that tend to offset each other.

(ii) The effect of credit risk does not dominate the value changes that result from that economic relationship.

(iii) The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the entity actually hedges and the quantity of the hedging instrument that the entity actually uses to hedge that quantity of hedged item. However, that designation does not reflect an imbalance between the weightings of the hedged item and the hedging instrument.

Cash flow hedges

Cash flow hedge is a hedge of the exposure to variability in cash flows that is attributable to a particular risk associated with all, or a component of, a recognized asset or liability (such as all or some future interest payments on variable-rate debt) or a highly probable forecast transaction, and could affect profit or loss. Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments to ensure that an economic relationship exists between the hedged item and hedging instrument.

As long as a cash flow hedge meets the qualifying criteria for hedge accounting, the separate component of equity associated with the hedged item (cash flow hedge reserve) is adjusted to the lower of the following (in absolute amounts):

(i) The cumulative gain or loss on the hedging instrument from inception of the hedge; and

(ii) The cumulative change in fair value (present value) of the hedged item (i.e. the present value of the cumulative change in the hedged expected future cash flows) from inception of the hedge.

The gain or loss on the hedging instrument that is determined to be an effective hedge is recognized in other comprehensive income.

The portion of the gain or loss on the hedging instrument that is determined to be an ineffective hedge is recognized in profit or loss.

If a hedged forecast transaction subsequently results in the recognition of a non-financial asset or non-financial liability, or a hedged forecast transaction for a non-financial asset or a non-financial liability becomes a firm commitment for which fair value hedge accounting is applied, the entity removes that amount from the cash flow hedge reserve and include it directly in the initial cost or other carrying amount of the asset or the liability. This is not a reclassification adjustment and hence it does not affect other comprehensive income.

For cash flow hedges, other than those covered by the preceding policy statements, that amount is reclassified from the cash flow hedge reserve to profit or loss as a reclassification adjustment in the same period or periods during which the hedged expected future cash flows affect profit or loss.

If the amount that has been accumulated in the cash flow hedge reserve is a loss and the Group expects that all or a portion of that loss will not be recovered in one or more future periods, the Group immediately reclassifies the amount that is not expected to be recovered into profit or loss.

2 SIGNIFICANT ACCOUNTING POLICIES *(Continued)*

(m) Derivative financial instruments and hedge accounting *(Continued)*

When the hedging relationship no longer meets the risk management objective on the basis of which it qualified for hedge accounting (ie the entity no longer pursues that risk management objective), or when a hedging instrument expires or is sold, terminated, exercised, or there is no longer an economic relationship between the hedged item and the hedging instrument or the effect of credit risk starts to dominate the value changes that result from that economic relationship or no longer meets the criteria for hedge accounting, the Group discontinues prospectively the hedge accounting treatments. If the hedged future cash flows are still expected to occur, that amount remains in the cash flow hedge reserve and is accounted for as cash flow hedges. If the hedged future cash flows are no longer expected to occur, that amount is immediately reclassified from the cash flow hedge reserve to profit or loss as a reclassification adjustment. A hedged future cash flow that is no longer highly probable to occur may still be expected to occur, if the hedged future cash flows are still expected to occur, that amount remains in the cash flow hedge reserve and is accounted for as cash flow hedges.

Fair value hedges

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

The gain or loss from remeasuring the hedging instrument 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 recognized hedged item not measured at fair value and is recognized in profit or loss.

Any adjustment to the carrying amount of a hedged item is amortized to profit or loss if the hedged item is a financial instrument (or a component thereof) measured at amortized cost. The amortization is based on a recalculated effective interest rate at the date that amortization begins.

(n) Impairment of assets

The carrying amounts of assets, including property, plant and equipment, construction in progress, right-of-use assets and other assets, are reviewed at each date of the statement of financial position 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 date of the statement of financial position.

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 income statement. 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 date of the statement of financial position whether there is any indication that an impairment loss recognized for an 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.

(o) Trade, bills and other payables

Trade, bills and other payables generally are financial liabilities and 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 invoice amounts.

2 SIGNIFICANT ACCOUNTING POLICIES *(Continued)*

(p) 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 income statement over the period of borrowings using the effective interest method.

(q) 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.

(r) Revenue recognition

Revenue arises in the course of the Group's ordinary activities, and increases in economic benefits in the form of inflows that result in an increase in equity, other than those relating to contributions from equity participants.

The Group sells crude oil, natural gas, petroleum and chemical products, etc. Revenue is recognized according to the expected consideration amount, when a customer obtains control over the relevant goods or services. To determine whether a customer obtains control of a promised asset, the Group shall consider indicators of the transfer of control, which include, but are not limited to, the Group has a present right to payment for the asset; the Group has transferred physical possession of the asset to the customer; the customer has the significant risks and rewards of ownership of the asset; the customer has accepted the asset.

Sales of goods

Sales are recognized when control of the goods have transferred. Obtaining control of relevant goods means that a customer can direct the use of the goods and obtain almost all the economic benefits from it. Advance from customers but goods not yet delivered is recorded as contract liabilities and is recognized as revenues when a customer obtains control over the relevant goods.

(s) Government grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grants relating to costs are deferred and recognized in the profit or loss over the period necessary to match them with the costs that they are intended to compensate.

Government grants relating to the purchase of property, plant and equipment are included in non-current liabilities as deferred income and are credited to profit or loss on a straight-line basis over the expected lives of the related assets.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(t) Borrowing costs

Borrowing costs are expensed in the consolidated income statements 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.

(u) Repairs and maintenance expenditure

Repairs and maintenance expenditure is expensed as incurred.

(v) 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.

(w) Research and development expense

Research and development expenditures that cannot be capitalized are expensed in the period in which they are incurred. Research and development expense amounted to RMB 9,451, RMB 10,087 and RMB 11,481 for the years ended December 31, 2019, 2020 and 2021, respectively.

(x) Leases

A lease is a contract that a lessor transfers the right to use an identified asset for a period of time to a lessee in exchange for consideration.

(i) As lessee

The Group recognizes a right-of-use asset at the date at which the leased asset is available for use by the Group, and recognizes a lease liability measured at the present value of the remaining lease payments. The lease payments include fixed payments, the exercise price of a purchase option if the Group is reasonably certain to exercise that option, and payments of penalties for terminating the lease if the lease term reflects the Group exercising that option, etc. Variable payments that are based on a percentage of sales are not included in the lease payments, and should be recognized in profit or loss when incurred. Lease liabilities to be paid within one year (including one year) from the date of the statement of financial position is presented in current liabilities.

Right-of-use assets of the Group mainly comprise land. Right-of-use assets are measured at cost which comprises the amount of the initial measurement of the lease liability, any lease payments made at or before the commencement date, any initial direct costs incurred by the lessee, less any lease incentives received. The Group depreciates the right-of-use assets over the shorter of the asset's useful life and the lease term on a straight-line basis. When the recoverable amount of a right-of-use asset is less than its carrying amount, the carrying amount is reduced to the recoverable amount.

Payments associated with short-term leases with lease terms within 12 months and all leases of low-value assets are recognized on a straight-line basis over the lease term as an expense in profit or loss or as cost of relevant assets, instead of recognizing right-of-use assets and lease liabilities.

A lessee shall account for a lease modification as a separate lease if both: (1) the modification increases the scope of the lease by adding the right to use one or more underlying assets; and (2) the consideration for the lease increases by an amount commensurate with the stand-alone price for the increase in scope and any appropriate adjustments to that stand-alone price to reflect the circumstances of the articular contract.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(x) Leases (Continued)

For a lease modification that is not accounted for as a separate lease, except for the practical expedient which applies only to rent concessions occurring as a direct consequence of the COVID-19 pandemic, the Group determine the lease term of the modified lease at the effective date of the modification, and remeasure the lease liability by discounting the revised lease payments using a revised discount rate. The Group decrease the carrying amount of the right-of-use asset to reflect the partial or full termination of the lease for lease modifications that decrease the scope or shorten the term of the lease, and shall recognize in profit or loss any gain or loss relating to the partial or full termination of the lease. The Group make a corresponding adjustment to the right-of-use asset for all other lease modifications.

(ii) As lessor

A lease that transfers substantially all the risks and rewards incidental to ownership of an asset is a finance lease. An operating lease is a lease other than a finance lease.

When the Group leases self-owned plants and buildings, equipment and machinery, lease income from an operating lease is recognized on a straight-line basis over the period of the lease. The Group recognizes variable lease income which is based on a certain percentage of sales as rental income when occurred.

(y) Employee benefits

The contributions payable under the Group's retirement plans are recognized as an expense in the consolidated income statement as incurred and according to the contribution determined by the plans. Further information is set out in Note 37.

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.

(z) 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 statement of financial position 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 income statement, 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 date of statement of financial position and is reduced to the extent that it is no longer probable that the related tax benefit will be realized.

(aa) Dividends

Dividends and distributions of profits proposed in the profit appropriation plan which will be authorized and declared after the date of statement of financial position, are not recognized as a liability at the date of statement of financial position 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.

2 SIGNIFICANT ACCOUNTING POLICIES (Continued)

(bb) 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. REVENUE FROM PRIMARY BUSINESS

Revenue from primary business represents revenue from the sales of refined petroleum products, chemical products, crude oil and natural gas, which are recognized at a point in time.

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Gasoline	699,202	557,605	726,057
Diesel	615,342	422,566	542,260
Crude oil	549,720	351,707	429,038
Basic chemical feedstock	215,563	155,397	242,532
Synthetic resin	125,739	122,368	149,208
Kerosene	191,636	72,385	112,519
Natural gas	53,817	48,099	68,443
Synthetic fiber monomers and polymers	80,952	42,388	45,464
Others(i)	367,411	276,139	363,979
	<u>2,899,382</u>	<u>2,048,654</u>	<u>2,679,500</u>

Notes:

- (i) Others are primarily liquefied petroleum gas and other refinery and chemical byproducts and joint products.

4. OTHER OPERATING REVENUES

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Sale of materials and others	57,321	54,986	59,990
Rental income	1,165	1,084	1,394
	<u>58,486</u>	<u>56,070</u>	<u>61,384</u>

5. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

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

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Variable lease payments, low-value and short-term lease payment	1,858	2,683	2,393
Auditor's remuneration:			
- Audit services	70	73	59
- Others	6	8	8

6. PERSONNEL EXPENSES

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Salaries, wages and other benefits	71,029	78,542	91,560
Contributions to retirement schemes (Note 37)	12,025	8,983	11,932
	<u>83,054</u>	<u>87,525</u>	<u>103,492</u>

7. TAXES OTHER THAN INCOME TAX

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Consumption tax (i)	204,388	197,542	213,894
City construction tax (ii)	16,398	15,710	18,044
Education surcharge	12,119	11,678	13,409
Resources tax	5,883	4,572	6,432
Others	5,814	5,516	7,253
	<u>244,602</u>	<u>235,018</u>	<u>259,032</u>

Notes:

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

Products	RMB/Ton
Gasoline	2,109.76
Diesel	1,411.20
Naphtha	2,105.20
Solvent oil	1,948.64
Lubricant oil	1,711.52
Fuel oil	1,218.00
Jet fuel oil	1,495.20

- (ii) City construction tax and education surcharge is levied on an entity based on its paid amount of value-added tax and consumption tax.

8. OTHER OPERATING INCOME / (EXPENSES), NET

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Government grants(i)	6,933	8,776	6,706
Ineffective portion of change in fair value of cash flow hedges	(222)	3,052	694
Net realized and unrealized loss on derivative financial instruments not qualified as hedging	(4,384)	(1,252)	(14,873)
Impairment losses on long-lived assets (ii)	(356)	(14,629)	(10,035)
(Loss)/gain on disposal of property, plant, equipment and other non-current assets, net	(1,829)	398	(3,062)
Fines, penalties and compensations	(173)	(43)	(220)
Donations	(210)	(301)	(165)
Others	(115)	(1,781)	(761)
	<u>(356)</u>	<u>(5,780)</u>	<u>(21,716)</u>

Notes:

- (i) Government grants for the years ended December 31, 2019, 2020 and 2021 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.
- (ii) Impairment losses recognized on long-lived assets of the exploration and production (“E&P”) segments were RMB 3, RMB 8,495 and RMB 2,467 for the years ended December 31, 2019, 2020 and 2021, respectively. The impairment comprised RMB 3, RMB 8,435 and RMB 2,467 on property, plant and equipment for the years ended December 31, 2019, 2020 and 2021, respectively, and RMB 60 on construction in progress for the year ended December 31, 2020. E&P segment determines recoverable amounts of property, plant and equipment relating to oil and gas producing activities, which include significant judgements and assumptions. The recoverable amounts were determined based on the present values of the expected future cash flows of the assets using a pre-tax discount rate of 10.47%, 10.47% and 10.47% for the years ended December 31, 2019, 2020 and 2021, respectively. Further future downward revisions to the Group’s oil or nature gas price outlook would lead to further impairments which, in aggregate, are likely to be material. It is estimated that a general decrease of 5% in gas price, with all other variables held constant, would result in additional impairment loss on the Group’s properties, plant and equipment relating to oil and gas producing activities by approximately RMB 184, RMB 4,548 and RMB 3,628 for the years ended December 31, 2019, 2020 and 2021, respectively. It is estimated that a general increase of 5% in operating cost, with all other variables held constant, would result in additional impairment loss on the Group’s property plant and equipment relating to oil and gas producing activities by approximately RMB 180, RMB 2,836 and RMB 2,400 for the year ended December 31, 2019, 2020 and 2021. It is estimated that a general increase of 5% in discount rate, with all other variables held constant, would result in additional impairment loss on the Group’s property, plant and equipment relating to oil and gas producing activities by approximately RMB 7, RMB 287 and RMB 180 for the year ended December 31, 2019, 2020 and 2021.

8. OTHER OPERATING INCOME / (EXPENSES), NET (Continued)

Impairment losses recognized for the chemicals segment were RMB 17, RMB 3,675 and RMB 5,332 for the years ended December 31, 2019, 2020 and 2021, respectively, and comprised of impairment losses of RMB 4, RMB 2,680 and RMB 5,184 on property, plant and equipment for the years ended December 31, 2019, 2020 and 2021, respectively, RMB 29, RMB 744 and RMB 62 on construction in progress for the years ended December 31, 2019, 2020 and 2021, RMB 16 on intangible assets for the years ended December 31, 2021, RMB 251, RMB 70 for investment on associates and joint ventures for the year ended December 31, 2020 and 2021, respectively, written back RMB 16 on entrusted loans for the year ended December 31, 2019. Impairment losses recognized for the refining segment were RMB 256, RMB 1,923 and RMB 860 for the years ended December 31, 2019, 2020 and 2021, respectively, and comprised of impairment losses of RMB 151, RMB 226 and RMB 860 on property, plant and equipment for the years ended December 31, 2019, 2020 and 2021, respectively, and RMB 105 on construction in progress for the year ended December 31, 2019, RMB 1,697 for investment in joint venture for the year ended December 31, 2020. These impairment losses relate to certain refining and chemicals production facilities that are held for use for the years ended December 31, 2019, 2020 and 2021. The primary factors resulting in the impairment losses were due to the suspension of operations of certain production facilities, and evidence that indicate the economic performance of certain production facilities was lower than the expectation. The carrying amounts of these facilities were written down to their recoverable amounts, which were determined based on the present values of expected future cash flows of the assets using a pre-tax discount rates ranging from 9.87% to 11.60% and 10.50% to 13.9% for the years ended December 31, 2020 and 2021.

Impairment losses recognized on long-lived assets of the marketing and distribution segment were RMB 80, RMB 536 and RMB 1,211 for the years ended December 31, 2019, 2020 and 2021 respectively. The impairment comprised of impairment losses of RMB 52, RMB 442 and RMB 873 on property, plant and equipment for the years ended December 31, 2019, 2020 and 2021, respectively, impairment losses of RMB 47 and RMB 246 on intangible assets for the year ended December 31, 2020 and 2021, respectively, impairment losses of RMB 2 on right of use assets for the year ended December 31, 2021, impairment losses of RMB 7, RMB 8 on investments in associates and joint ventures for the years ended December 31, 2020 and 2021, respectively, impairment losses of RMB 1, RMB 40 and RMB 82 on construction in progress for the years ended December 31, 2019, 2020 and 2021, respectively, primarily relate to certain service stations and certain construction in progress that were closed or abandoned during respective years, and impairment losses of RMB 27 on prepayments for the year ended December 31, 2019. 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 loss recognized on long-lived assets of the corporate and others segment was RMB 165 for the year ended December 31, 2021. The impairment comprised of impairment loss of RMB 3 on property, plant and equipment and RMB 162 on investments in associates and joint ventures for the years ended December 31, 2021.

9. INTEREST EXPENSE

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Interest expense incurred	7,042	6,517	5,679
Less: Interest expense capitalized*	(1,015)	(2,011)	(996)
	6,027	4,506	4,683
Interest expense on lease liabilities	9,646	9,349	9,200
Accretion expenses (Note 32)	1,418	1,343	1,135
Interest expense	17,091	15,198	15,018
* Interest rates per annum at which borrowing costs were capitalized for construction in progress	2.92% to 4.66%	2.60% to 4.66%	1.84% to 4.35%

10. INVESTMENT INCOME

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Investment income from disposal of business and long-term equity investments (i)	185	37,525	82
Dividend income from holding of other equity instrument investments	492	156	34
Others	242	63	182
	<u>919</u>	<u>37,744</u>	<u>298</u>

Note:

- (i) The Company and Sinomart KTS Development Limited, Sinopec Natural Gas Limited Company and Sinopec Marketing Company Limited (“Marketing Company”), the subsidiaries of the Company entered into the Agreement on Cash Payment to Purchase Equity in Sinopec Yu Ji Pipeline Company Limited, the Agreement on Additional Issuance of Equity and Cash Payment to Purchase Assets, the Agreement on Cash Payment to Purchase Assets and the Agreement on Additional Issuance of Equity to Purchase Assets with China Oil & Gas Pipeline Network Corporation (“PipeChina”), on July 21, 2020 and on July 23, 2020 respectively, pursuant to which the Company and its subsidiaries proposed to dispose target business, including equity interests in the relevant companies, oil and gas pipeline and ancillary facilities, to PipeChina. The above transactions were considered and approved by the 15th Session of 7th Directorate Meeting on July 23, 2020 and the second Extraordinary General Meeting on September 28, 2020. The transaction consideration was mainly additional issuance of equity and/or cash payment by PipeChina and the gain on above transactions was RMB 37,731 in 2020.

11. INCOME TAX EXPENSE

Income tax expense in the consolidated income statement represents:

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Current tax			
- Provision for the year	15,136	14,334	17,522
- Adjustment of prior years	(467)	(117)	(462)
Deferred taxation (Note 25)	3,385	(7,873)	6,258
	<u>18,054</u>	<u>6,344</u>	<u>23,318</u>

11. INCOME TAX EXPENSE (Continued)

Reconciliation between actual income tax expense and the expected income tax expense at applicable statutory tax rates is as follows:

	Years ended December 31,		
	2019	2020	2021
	RMB	RMB	RMB
Earnings before income tax	90,161	48,615	109,169
Expected PRC income tax expense at a statutory tax rate of 25%	22,540	12,154	27,292
Tax effect of non-deductible expenses	2,402	3,281	5,948
Tax effect of non-taxable income	(4,458)	(8,330)	(8,096)
Tax effect of preferential tax rate (i)	(2,003)	(1,011)	(2,766)
Effect of income taxes at foreign operations	(312)	(730)	(222)
Tax effect of utilization of previously unrecognized tax losses and temporary differences	(335)	(65)	(701)
Tax effect of tax losses not recognized	498	1,087	1,391
Write-down of deferred tax assets	189	75	934
Adjustment of prior years	(467)	(117)	(462)
Actual income tax expense	18,054	6,344	23,318

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 2021. According to Announcement [2020] No. 23 of the Ministry of Finance (“MOF”) “Announcement of the MOF, the State Taxation Administration and the National Development and Reform Commission on continuation of the income tax policy of western development enterprises”, the preferential tax rate of 15% extends from January 1, 2021 to December 31, 2030.

12. OTHER COMPREHENSIVE INCOME

	Years ended December 31,								
	2019			2020			2021		
	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	5,258	(974)	4,284	9,207	(2,295)	6,912	15,659	(3,881)	11,778
Reclassification adjustments for amounts transferred to the consolidated income statement	853	(196)	657	198	(37)	161	8,858	(1,618)	7,240
Net movement during the year recognized in other comprehensive income (i)	6,111	(1,170)	4,941	9,405	(2,332)	7,073	24,517	(5,499)	19,018
Changes in the fair value of instruments at fair value through other comprehensive income	(39)	8	(31)	(6)	(4)	(10)	(6)	2	(4)
Transfer of loss on disposal of equity investments at fair value through other comprehensive income to retained earnings	—	—	—	(12)	—	(12)	—	—	—
Net movement during the year recognized in other comprehensive income	(39)	8	(31)	(18)	(4)	(22)	(6)	2	(4)
Cost of hedging reserve	—	—	—	162	—	162	(220)	—	(220)
Share of other comprehensive loss of associates and joint ventures	(810)	—	(810)	(2,441)	—	(2,441)	441	—	441
Foreign currency translation differences	1,480	—	1,480	(4,457)	—	(4,457)	(1,728)	—	(1,728)
Other comprehensive income	6,742	(1,162)	5,580	2,651	(2,336)	315	23,004	(5,497)	17,507

Note:

- (i) As at December 31, 2020 and 2021, cash flow hedge reserve amounted to a gain of RMB 8,176 and a gain of RMB 7,244, respectively, of which a gain of RMB 7,805 and a gain of RMB 7,214 were attributable to owners of the Company.

13. BASIC AND DILUTED EARNINGS PER SHARE

The calculation of basic earnings per share for the years ended December 31, 2019, 2020 and 2021 is based on the net income attributable to ordinary owners of the Company of RMB 57,517, RMB 33,443 and RMB 71,975, respectively, and the weighted average number of shares of 121,071,209,646, 121,071,209,646 and 121,071,209,646, respectively.

The calculation of diluted earnings per share for the years ended December 31, 2019, 2020 and 2021 is based on the net income attributable to ordinary owners of the Company (diluted) of RMB 57,517, RMB 33,443 and RMB 71,975, respectively, and the weighted average number of shares of 121,071,209,646, 121,071,209,646 and 121,071,209,646, respectively, calculated as follows:

(i) Net income attributable to ordinary owners of the Company (diluted)

	2019 RMB	2020 RMB	2021 RMB
Net income attributable to ordinary owners of the Company	57,517	33,443	71,975
Net income attributable to ordinary owners of the Company (diluted)	57,517	33,443	71,975

(ii) Weighted average number of shares (diluted)

	2019 Number of shares	2020 Number of shares	2021 Number of shares
Weighted average number of shares as at December 31	121,071,209,646	121,071,209,646	121,071,209,646
Weighted average number of shares (diluted) as at December 31	121,071,209,646	121,071,209,646	121,071,209,646

14. DERIVATIVE FINANCIAL ASSETS AND DERIVATIVE FINANCIAL LIABILITIES

Derivative financial assets and derivative financial liabilities of the Group are primarily commodity futures and swaps contracts. See Note 40.

15. TRADE ACCOUNTS RECEIVABLE

	December 31,	
	2020 RMB	2021 RMB
Amounts due from third parties	22,473	30,159
Amounts due from Sinopec Group Company and fellow subsidiaries	12,045	2,199
Amounts due from associates and joint ventures	4,781	6,536
	39,299	38,894
Less: Loss allowance for ECLs	(3,860)	(4,033)
	35,439	34,861

The ageing analysis of trade accounts receivable (net of loss allowance for ECLs) is as follows:

	December 31,	
	2020 RMB	2021 RMB
Within one year	34,361	34,180
Between one and two years	931	442
Between two and three years	64	221
Over three years	83	18
	35,439	34,861

15. TRADE ACCOUNTS RECEIVABLE (Continued)

Loss allowance for ECLs are analyzed as follows:

	2019 RMB	2020 RMB	2021 RMB
Balance as at January 1	606	1,848	3,860
Provision for the year	1,566	2,173	436
Written back for the year	(283)	(68)	(127)
Written off for the year	(41)	(23)	(30)
Others	—	(70)	(106)
Balance as at December 31	1,848	3,860	4,033

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 represent 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.

Information about the impairment of trade accounts receivable and the Group's exposure to credit risk can be found in Note 40.

16. INVENTORIES

	December 31,	
	2020 RMB	2021 RMB
Crude oil and other raw materials	60,379	109,940
Work in progress	13,066	15,701
Finished goods	78,481	84,174
Spare parts and consumables	3,372	2,515
	155,298	212,330
Less: Allowance for diminution in value of inventories	(3,107)	(4,897)
	152,191	207,433

Allowance for diminution in value of inventories is analyzed as follows:

	2019 RMB	2020 RMB	2021 RMB
Balance as at January 1	6,401	2,597	3,107
Allowance for the year	1,616	11,689	3,148
Reversal of allowance	(199)	(333)	(18)
Written off	(5,233)	(10,795)	(1,300)
Others	12	(51)	(40)
Balance as at December 31	2,597	3,107	4,897

During the years ended December 31, 2019, 2020 and 2021, the costs of inventories recognized as an expense in the consolidated income statement were RMB 2,438,298, RMB 1,657,227 and RMB 2,177,141, respectively. Such costs include the write-down of inventories of RMB 1,616, RMB 11,689 and RMB 3,148, respectively, and the reversal of write-down of inventories of RMB 199, RMB 333 and RMB 18, 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 income statement. The write-down of inventories which were realized primarily with the sales of inventories for the years ended December 31, 2019, 2020 and 2021 were RMB 5,233, RMB 10,795 and RMB 1,300. The write-down of inventories for the year ended December 31, 2021 was mainly related to crude oil and finished goods.

17. PREPAID EXPENSES AND OTHER CURRENT ASSETS

	December 31,	
	2020	2021
	RMB	RMB
Receivables	35,096	35,918
Advances to suppliers	4,857	9,267
Value-added input tax to be deducted	18,625	19,137
Prepaid income tax	131	5,109
	<u>58,709</u>	<u>69,431</u>

18. PROPERTY, PLANT AND EQUIPMENT

	Plants and buildings RMB	Oil and gas properties RMB	Equipment, machinery and others RMB	Total RMB
Cost:				
Balance as at January 1, 2020	132,327	727,552	1,027,324	1,887,203
Additions	390	1,563	5,163	7,116
Transferred from construction in progress	10,965	32,214	98,427	141,606
Reclassifications	1,443	(125)	(1,318)	—
Invest into the joint ventures and associated companies	—	—	(115)	(115)
Reclassification to other long-term assets	(38)	—	(1,052)	(1,090)
Disposals	(6,396)	(806)	(131,501)	(138,703)
Exchange adjustments	(141)	(2,806)	(226)	(3,173)
Balance as at December 31, 2020	<u>138,550</u>	<u>757,592</u>	<u>996,702</u>	<u>1,892,844</u>
Balance as at January 1, 2021	138,550	757,592	996,702	1,892,844
Additions	509	2,192	5,177	7,878
Transferred from construction in progress	5,487	40,357	65,182	111,026
Reclassifications	646	(617)	(29)	—
Invest into the joint ventures and associated companies	(8)	—	(188)	(196)
Reclassification to other long-term assets	(665)	(22)	(1,027)	(1,714)
Disposals	(1,297)	(5,517)	(17,495)	(24,309)
Exchange adjustments	(57)	(940)	(95)	(1,092)
Balance as at December 31, 2021	<u>143,165</u>	<u>793,045</u>	<u>1,048,227</u>	<u>1,984,437</u>
Accumulated depreciation and impairment losses:				
Balance as at January 1, 2020	61,069	587,192	608,622	1,256,883
Depreciation for the year	4,680	32,054	48,760	85,494
Impairment losses for the year	684	4,739	6,360	11,783
Reclassifications	393	(98)	(295)	—
Invest into the joint ventures and associated companies	—	—	(54)	(54)
Reclassification to other long-term assets	(8)	—	(161)	(169)
Written back on disposals	(3,229)	(464)	(48,125)	(51,818)
Exchange adjustments	(49)	(2,703)	(138)	(2,890)
Balance as at December 31, 2021	<u>63,540</u>	<u>620,720</u>	<u>614,969</u>	<u>1,299,229</u>
Balance as at January 1, 2021	63,540	620,720	614,969	1,299,229
Depreciation for the year	4,586	39,670	48,568	92,824
Impairment losses for the year	742	1,904	6,774	9,420
Reclassifications	185	(410)	225	—
Invest into the joint ventures and associated companies	(5)	—	(133)	(138)
Reclassification to other long-term assets	(82)	(7)	(170)	(259)
Written back on disposals	(771)	(135)	(13,668)	(14,574)
Exchange adjustments	(29)	(904)	(57)	(990)
Balance as at December 31, 2021	<u>68,166</u>	<u>660,838</u>	<u>656,508</u>	<u>1,385,512</u>
Net book value:				
Balance as at January 1, 2020	71,258	140,360	418,702	630,320
Balance as at December 31, 2020	<u>75,010</u>	<u>136,872</u>	<u>381,733</u>	<u>593,615</u>
Balance as at December 31, 2021	<u>74,999</u>	<u>132,207</u>	<u>391,719</u>	<u>598,925</u>

The Group compares the carrying amount of individual cash-generating units which were grouped for the property, plant and equipment related to oil and gas producing activities with its value in use, using a discounted cash flow forecast prepared based on the future production profiles included in the oil and gas reserve reports, and recorded impairment losses amounting to RMB 8,435 and RMB 2,467 for the years ended 31 December 2020 and 2021.

18. PROPERTY, PLANT AND EQUIPMENT *(Continued)*

The additions to oil and gas properties of the Group for the years ended December 31, 2020 and 2021 included RMB 1,563 and RMB 2,163 respectively, of estimated dismantlement costs for site restoration.

As at December 31, 2020 and 2021, the Group had no individual substantial property, plant and equipment which have been pledged.

As at December 31, 2020 and 2021, the Group had no individual significant property, plant and equipment which were temporarily idle or pending for disposal.

As at December 31, 2020 and 2021, the Group had no individual significant fully depreciated property, plant and equipment which were still in use.

19. CONSTRUCTION IN PROGRESS

	2020 RMB	2021 RMB
Balance as at January 1	176,119	125,525
Additions	131,099	159,729
Dry hole costs written off	(5,928)	(7,702)
Transferred to property, plant and equipment	(141,606)	(111,026)
Reclassification to other long-term assets	(11,464)	(10,302)
Impairment losses for the year	(844)	(144)
Disposals and others	(21,798)	(107)
Exchange adjustments	(53)	(34)
Balance as at December 31	125,525	155,939

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:

	2019 RMB	2020 RMB	2021 RMB
At beginning of year	7,296	8,961	11,129
Additions, pending the determination of proved reserves	8,528	10,779	12,666
Transferred to oil and gas properties based on the determination of proved reserves	(2,822)	(3,687)	(6,208)
Dry hole costs written off	(4,041)	(4,924)	(5,332)
At end of year	8,961	11,129	12,255

The above disclosure did not include amounts that were capitalized and subsequently expensed in the same year.

Aging of capitalized exploratory well costs based on the date the drilling was completed are analyzed as follows:

	2019 RMB	December 31, 2020 RMB	2021 RMB
One year or less	7,794	10,586	11,168
Over one year	1,167	543	1,087
	8,961	11,129	12,255

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, 2019, 2020 and 2021 amounted to RMB 4,024, RMB 3,166 and RMB 4,174, respectively.

20. RIGHT-OF-USE ASSETS

	Land RMB	Others RMB	Total RMB
Cost:			
Balance as at January 1, 2020	248,775	34,188	282,963
Additions	14,370	9,653	24,023
Decreases	(9,790)	(3,140)	(12,930)
Balance as at December 31, 2020	253,355	40,701	294,056
Balance as at January 1, 2021	253,355	40,701	294,056
Additions	13,263	9,650	22,913
Decreases	(2,862)	(3,430)	(6,292)
Balance as at December 31, 2021	263,756	46,921	310,677
Accumulated depreciation:			
Balance as at January 1, 2020	9,101	5,702	14,803
Additions	9,358	6,354	15,712
Decreases	(896)	(1,575)	(2,471)
Balance as at December 31, 2020	17,563	10,481	28,044
Balance as at January 1, 2021	17,563	10,481	28,044
Additions	9,966	6,863	16,829
Decreases	(407)	(2,197)	(2,604)
Balance as at December 31, 2021	27,122	15,147	42,269
Net book value:			
Balance as at January 1, 2020	239,674	28,486	268,160
Balance as at December 31, 2020	235,792	30,220	266,012
Balance as at December 31, 2021	236,634	31,774	268,408

21. GOODWILL

	December 31,	
	2020 RMB	2021 RMB
Cost	16,481	16,455
Less: Accumulated impairment losses	(7,861)	(7,861)
	<u>8,620</u>	<u>8,594</u>

21. GOODWILL (Continued)

Impairment tests for cash-generating units containing goodwill

Goodwill is allocated to the following Group's cash-generating units:

		December 31,	
		2020	2021
		RMB	RMB
	PRINCIPAL ACTIVITIES		
Sinopec Zhenhai Refining and Chemical Branch	Manufacturing of intermediate petrochemical products and petroleum products	4,043	4,043
Shanghai SECCO Petrochemical Company Limited ("Shanghai SECCO")	Production and sale of petrochemical products	2,541	2,541
Sinopec Beijing Yanshan Petrochemical Branch	Manufacturing of intermediate petrochemical products and petroleum products	1,004	1,004
Other units without individually significant goodwill		1,032	1,006
		<u>8,620</u>	<u>8,594</u>

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 11.4% to 13.4% and 11.4% to 11.7% for the years ended December 31, 2020 and 2021, respectively. Cash flows beyond the one-year period are maintained constant. Based on the estimated recoverable amount, no major impairment loss was recognized for the year ended December 31, 2021.

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.

22. 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.

22. INTEREST IN ASSOCIATES (Continued)

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
PipeChina (i)	Incorporated	Registered capital RMB 500,000 million	9.42 %	4.58 %	Operation of oil and natural gas pipeline and auxiliary facilities	PRC	PRC
Sinopec Finance Company Limited ("Sinopec Finance")	Incorporated	Registered capital RMB 18,000 million	49.00	—	Provision of non-banking financial services	PRC	PRC
Sinopec Capital Co., Ltd. ("Sinopec Capital")	Incorporated	Registered capital RMB 10,000 million	49.00	—	Project and equity investment, investment management, investment consulting, self-owned equity management	PRC	PRC
Zhongtian Synergetic Energy Company Limited ("Zhongtian Synergetic Energy")	Incorporated	Registered capital RMB 17,516 million	—	38.75	Mining coal and manufacturing of coal-chemical products	PRC	PRC
Caspian Investments Resources Ltd. ("CIR")	Incorporated	Registered capital USD 10,002	—	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:

	PipeChina December 31,		Sinopec Finance December 31,		Sinopec Capital December 31,		Zhongtian Synergetic Energy December 31,		CIR December 31,	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Current assets	74,012	86,335	175,139	194,458	11,871	13,140	3,721	3,532	2,402	576
Non-current assets	655,982	768,161	53,008	55,086	106	102	53,124	51,331	903	870
Current liabilities	(55,562)	(136,150)	(197,872)	(217,987)	(18)	(28)	(8,315)	(8,577)	(699)	(822)
Non-current liabilities	(104,150)	(103,243)	(514)	(602)	(411)	(676)	(28,422)	(22,216)	(286)	(144)
Net assets	570,282	615,103	29,761	30,955	11,548	12,538	20,108	24,070	2,320	480
Net assets attributable to owners of the Company	505,336	526,241	29,761	30,955	11,548	12,538	20,108	24,070	2,320	480
Net assets attributable to non-controlling interests	64,946	88,862	—	—	—	—	—	—	—	—
Share of net assets from associates	70,747	73,674	14,583	15,168	5,659	6,144	7,792	9,327	1,160	240
Carrying Amounts	70,747	73,674	14,583	15,168	5,659	6,144	7,792	9,327	1,160	240

Summarized statement of comprehensive income

	PipeChina (ii)		Sinopec Finance			Sinopec Capital			Zhongtian Synergetic Energy			CIR		
Year ended December 31	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Operating revenues	22,766	101,572	4,966	4,742	5,177	—	2	2	13,329	11,707	16,959	2,334	1,252	1,826
Net income for the year	6,444	29,776	2,234	2,027	2,168	232	1,278	990	1,994	551	4,184	424	181	461
Other comprehensive income	—	2	411	(372)	26	—	—	—	—	—	—	151	(308)	3
Total comprehensive income	6,444	29,778	2,645	1,655	2,194	232	1,278	990	1,994	551	4,184	575	(127)	464
Dividends declared by associates	—	442	—	—	490	—	—	—	219	284	86	—	2,517	1,152
Share of net income from associates	709	3,205	1,095	993	1,062	114	626	485	773	214	1,621	212	91	231
Share of other comprehensive income from associates (iii)	—	—	201	(182)	13	—	—	—	—	—	—	76	(154)	2

The share of net income for years ended December 31, 2019, 2020 and 2021 in all individually immaterial associates accounted for using equity method in aggregate were RMB 6,198, RMB 3,444 and 7,283 respectively.

The share of other comprehensive income for the years ended December 31, 2019, 2020 and 2021 in all individually immaterial associates accounted for using equity method in aggregate were a loss of RMB 299, a loss of RMB 1,101 and a profit of RMB 271, respectively.

The carrying amount as at December 31, 2020 and 2021 of all individually immaterial associates accounted for using equity method in aggregate were RMB 36,222 and RMB 44,176, respectively.

22. INTEREST IN ASSOCIATES (Continued)

Summarized statement of comprehensive income (Continued)

Notes:

- (i) The Group has a member in the Board of Directors of PipeChina. According to the structure and the resolution mechanism of the Board of Directors, the Group can exercise significant influence on PipeChina.
- (ii) The summarized statement of comprehensive income for the year 2020 presents the operating results from the date when the Group can exercise significant influence on PipeChina to December 31, 2020.
- (iii) Including foreign currency translation differences.

23. 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 ("FREPCO")	PRC	Registered capital RMB 14,758 million	—	50.00	Manufacturing refining oil products	PRC
BASF-YPC Company Limited ("BASF-YPC")	PRC	Registered capital RMB 12,704 million	30.00	10.00	Manufacturing and distribution of petrochemical products	PRC
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")	Saudi Arabia	Registered capital USD 1,560 million	—	37.50	Petroleum refining and processing business	Saudi Arabia
Sinopec SABIC Tianjin Petrochemical Company Limited ("Sinopec SABIC Tianjin")	PRC	Registered capital RMB 10,520 million	—	50.00	Manufacturing and distribution of petrochemical products	PRC

Summarized balance sheet and reconciliation to their carrying amounts in respect of the Group's principal joint ventures:

	FREPCO December 31,		BASF-YPC December 31,		Taihu December 31,		YASREF December 31,		Sinopec SABIC Tianjin December 31,	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Current assets										
Cash and cash equivalents	7,448	6,562	1,838	5,375	1,280	1,258	1,408	5,441	5,259	4,820
Other current assets	7,492	9,217	4,777	6,953	1,223	2,188	7,516	12,404	2,665	3,437
Total current assets	14,940	15,779	6,615	12,328	2,503	3,446	8,924	17,845	7,924	8,257
Non-current assets	15,237	13,744	9,993	9,336	12,531	14,032	45,413	41,947	18,258	18,835
Current liabilities										
Current financial liabilities	(1,203)	(1,177)	(456)	(77)	(38)	(32)	(9,520)	(9,549)	(998)	(597)
Other current liabilities	(5,147)	(5,008)	(2,190)	(2,546)	(1,043)	(1,931)	(8,644)	(15,844)	(3,052)	(3,547)
Total current liabilities	(6,350)	(6,185)	(2,646)	(2,623)	(1,081)	(1,963)	(18,164)	(25,393)	(4,050)	(4,144)
Non-current liabilities										
Non-current financial liabilities	(8,761)	(6,857)	—	—	(85)	(85)	(29,650)	(30,903)	(6,773)	(7,599)
Other non-current liabilities	(235)	(242)	(42)	(92)	(2,017)	(1,439)	(2,008)	(1,723)	(378)	(382)
Total non-current liabilities	(8,996)	(7,099)	(42)	(92)	(2,102)	(1,524)	(31,658)	(32,626)	(7,151)	(7,981)
Net assets	14,831	16,239	13,920	18,949	11,851	13,991	4,515	1,773	14,981	14,967
Net assets attributable to owners of the Company	14,831	16,239	13,920	18,949	11,439	13,523	4,515	1,773	14,981	14,967
Net assets attributable to non-controlling interests	—	—	—	—	412	468	—	—	—	—
Share of net assets from joint ventures	7,416	8,120	5,568	7,580	5,605	6,626	—	—	7,491	7,484
Carrying Amounts	7,416	8,120	5,568	7,580	5,605	6,626	—	—	7,491	7,484

23. INTEREST IN JOINT VENTURES (Continued)

Summarized statement of comprehensive income

Year ended December 31,	FREP			BASF-YPC			Taihu			YASREF			Sinopec SABIC Tianjin		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Operating revenues	57,047	38,691	47,224	19,590	15,701	27,499	15,222	9,528	15,190	75,940	37,337	68,548	20,541	14,881	24,631
Depreciation, depletion and amortization	(2,541)	(2,222)	(2,789)	(1,474)	(1,244)	(1,467)	(629)	(541)	(667)	(3,048)	(3,140)	(3,224)	(1,094)	(1,085)	(1,164)
Interest income	124	118	147	32	27	52	94	291	451	58	17	6	171	183	209
Interest expense	(597)	(535)	(411)	(26)	(16)	(5)	(265)	(20)	(107)	(1,470)	(1,136)	(945)	(134)	(131)	(89)
Earning/(loss) before income tax	964	520	2,261	2,314	1,518	8,218	3,320	2,304	2,864	(1,292)	(7,193)	(2,868)	2,178	954	1,393
Tax expense	(197)	(87)	(597)	(579)	(379)	(2,054)	(708)	(378)	(601)	(8)	1,057	332	(533)	(236)	(407)
Net income/(loss) for the year	767	433	1,664	1,735	1,139	6,164	2,612	1,926	2,263	(1,300)	(6,136)	(2,536)	1,645	718	986
Other comprehensive income	—	—	—	—	—	—	(1,105)	(3,368)	(123)	(261)	(584)	(206)	—	—	—
Total comprehensive income	767	433	1,664	1,735	1,139	6,164	1,507	(1,442)	2,140	(1,561)	(6,720)	(2,742)	1,645	718	986
Dividends declared by joint ventures	1,400	300	128	1,224	691	454	—	—	—	—	—	—	1,750	—	500
Share of net income/(loss) from joint ventures	384	217	832	694	456	2,466	1,235	911	1,081	(488)	(2,301)	—	823	359	493
Share of other comprehensive income from joint ventures (i)	—	—	—	—	—	—	(522)	(1,593)	(60)	(98)	(219)	—	—	—	—

The share of net income for the years ended December 31, 2019, 2020 and 2021 in all individually immaterial joint ventures accounted for using equity method in aggregate were RMB 1,737, RMB 993 and RMB 4,494, respectively.

The share of other comprehensive income for the years ended December 31, 2019, 2020 and 2021 in all individually immaterial joint ventures accounted for using equity method in aggregate were a loss of RMB 168, a profit of RMB 808 and a profit of RMB 215, respectively.

The carrying amount as at December 31, 2020 and 2021 of all individually immaterial joint ventures accounted for using equity method in aggregate were RMB 26,099 and RMB 30,640, respectively.

Note:

- (i) Including foreign currency translation differences.

24. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

	December 31,	
	2020	2021
	RMB	RMB
Non-current assets		
Unlisted equity instruments	1,376	588
Listed equity instruments	149	179
Current assets		
Trade accounts receivable and bills receivable (i)	8,735	5,939
	10,260	6,706

Note:

- (i) As at December 31, 2020 and 2021, bills receivable and certain trade accounts receivable were classified as financial assets at FVOCI, as the Group's business model is achieved both by collecting contractual cash flows and selling of these assets.

25. DEFERRED TAX ASSETS AND LIABILITIES

Deferred tax assets and liabilities before offset are attributable to the items detailed in the table below:

	Assets December 31,		Liabilities December 31,	
	2020 RMB	2021 RMB	2020 RMB	2021 RMB
Receivables and inventories	2,411	3,763	—	—
Payables	1,286	2,858	—	—
Cash flow hedges	1,790	258	(4,420)	(2,709)
Property, plant and equipment	15,793	16,777	(13,415)	(15,037)
Tax losses carried forward	13,322	4,749	—	—
Financial assets at fair value through other comprehensive income	127	127	(11)	(9)
Intangible assets	869	1,008	(517)	(492)
Others	371	1,056	(676)	(870)
Deferred tax assets/(liabilities)	<u>35,969</u>	<u>30,596</u>	<u>(19,039)</u>	<u>(19,117)</u>

The consolidated elimination amount between deferred tax assets and liabilities are as follows:

	December 31,	
	2020 RMB	2021 RMB
Deferred tax assets	10,915	11,207
Deferred tax liabilities	10,915	11,207

Deferred tax assets and liabilities after the consolidated elimination adjustments are as follows:

	December 31,	
	2020 RMB	2021 RMB
Deferred tax assets	25,054	19,389
Deferred tax liabilities	8,124	7,910

As at December 31, 2020 and 2021, certain subsidiaries of the Company did not recognize deferred tax of deductible loss carried forward of RMB 17,718 and RMB 18,342, respectively, of which RMB 4,349 and RMB 5,564 were incurred for the years ended December 31, 2020 and 2021, respectively, because it was not probable that the future taxable profits will be available. These deductible losses carried forward of RMB 4,135, RMB 2,308, RMB 1,986, RMB 4,349 and RMB 5,564 will expire in 2022, 2023, 2024, 2025, 2026 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.

25. DEFERRED TAX ASSETS AND LIABILITIES (Continued)

Movements in the deferred tax assets and liabilities are as follows:

	Balance as at January 1, 2019 RMB	Recognized in consolidated statement of income RMB	Recognized in other comprehensive income RMB	Others RMB	Transferred from reserve RMB	Balance as at December 31, 2019 RMB
Receivables and inventories	2,563	(17)	—	—	—	2,546
Payables	1,808	(667)	—	1	—	1,142
Cash flow hedges	1,104	73	(1,195)	—	(250)	(268)
Property, plant and equipment	6,761	(2,575)	(39)	(1)	—	4,146
Tax losses carried forward	3,709	(151)	38	(2)	—	3,594
Financial assets at fair value through other comprehensive income	116	—	8	—	—	124
Intangible assets	(61)	148	—	—	—	87
Others	(254)	(196)	(49)	(65)	—	(564)
Net deferred tax assets/(liabilities)	15,746	(3,385)	(1,237)	(67)	(250)	10,807
	Balance as at January 1, 2020 RMB	Recognized in consolidated statement of income RMB	Recognized in other comprehensive income RMB	Others RMB	Transferred from reserve RMB	Balance as at December 31, 2020 RMB
Receivables and inventories	2,546	(122)	(12)	(1)	—	2,411
Payables	1,142	144	—	—	—	1,286
Cash flow hedges	(268)	(42)	(2,316)	—	(4)	(2,630)
Property, plant and equipment	4,146	(2,244)	127	349	—	2,378
Tax losses carried forward	3,594	9,960	(84)	(148)	—	13,322
Financial assets at fair value through other comprehensive income	124	(4)	(4)	—	—	116
Intangible assets	87	19	—	246	—	352
Others	(564)	162	24	73	—	(305)
Net deferred tax assets/(liabilities)	10,807	7,873	(2,265)	519	(4)	16,930
	Balance as at January 1, 2021 RMB	Recognized in consolidated statement of income RMB	Recognized in other comprehensive income RMB	Others RMB	Transferred from reserve RMB	Balance as at December 31, 2021 RMB
Receivables and inventories	2,411	1,378	(26)	—	—	3,763
Payables	1,286	1,572	—	—	—	2,858
Cash flow hedges	(2,630)	(203)	(5,499)	—	5,881	(2,451)
Property, plant and equipment	2,378	(1,004)	41	325	—	1,740
Tax losses carried forward	13,322	(8,554)	(19)	—	—	4,749
Financial assets at fair value through other comprehensive income	116	—	2	—	—	118
Intangible assets	352	63	—	101	—	516
Others	(305)	490	(3)	4	—	186
Net deferred tax assets/(liabilities)	16,930	(6,258)	(5,504)	430	5,881	11,479

26. LONG-TERM PREPAYMENTS AND OTHER ASSETS

	December 31,	
	2020 RMB	2021 RMB
Operating rights of service stations	31,856	29,714
Long-term receivables from and prepayment to Sinopec Group Company and fellow subsidiaries	2,801	1,520
Prepayments for construction projects to third parties	5,861	7,470
Others (i)	34,025	31,326
	<u>74,543</u>	<u>70,030</u>

Note:

- (i) Others mainly comprise time deposits with terms of three years, catalyst expenditures and improvement expenditures of property, plant and equipment.

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:

	2020 RMB	2021 RMB
Operating rights of service stations		
Cost:		
Balance as at January 1	53,549	53,567
Additions	493	912
Decreases	(475)	(688)
Balance as at December 31	<u>53,567</u>	<u>53,791</u>
Accumulated amortization:		
Balance as at January 1	19,536	21,711
Additions	2,365	2,699
Decreases	(190)	(333)
Balance as at December 31	<u>21,711</u>	<u>24,077</u>
Net book value as at December 31	<u>31,856</u>	<u>29,714</u>

27. SHORT-TERM AND LONG-TERM DEBTS AND LOANS FROM SINOPEC GROUP COMPANY AND FELLOW SUBSIDIARIES

Short-term debts represent:

	December 31,	
	2020 RMB	2021 RMB
Third parties' debts		
Short-term bank loans	16,111	24,959
RMB denominated	16,111	24,959
Short-term other loans	3	—
RMB denominated	3	—
Current portion of long-term bank loans	4,637	3,293
RMB denominated	4,613	3,281
USD denominated	24	12
Current portion of long-term corporate bonds	—	7,000
RMB denominated	—	7,000
	4,637	10,293
Corporate bonds	3,018	—
RMB denominated	3,018	—
	23,769	35,252
Loans from Sinopec Group Company and fellow subsidiaries		
Short-term loans	4,642	2,407
RMB denominated	1,141	1,320
USD denominated	3,298	934
Hong Kong Dollar ("HKD") denominated	31	—
European Dollar ("EUR") denominated	172	153
Current portion of long-term loans	622	466
RMB denominated	622	466
	5,264	2,873
	29,033	38,125

The Group's weighted average interest rates on short-term loans were 2.53% and 2.72% per annum as at December 31, 2020 and 2021, respectively. The above borrowings are unsecured.

27. SHORT-TERM AND LONG-TERM DEBTS AND LOANS FROM SINOPEC GROUP COMPANY AND FELLOW SUBSIDIARIES

(Continued)

Long-term debts represent:

Interest rate and final maturity		December 31,	
		2020	2021
		RMB	RMB
Third parties' debts			
Long-term bank loans			
RMB denominated	Interest rates ranging from 1.08% to 4.00% per annum as at December 31, 2021 with maturities through 2039	38,226	38,880
USD denominated	Interest rates at 1.55% per annum as at December 31, 2021 with maturities through 2038	92	64
		38,318	38,944
Corporate bonds(i)			
RMB denominated	Fixed interest rates ranging from 2.20% to 4.90% per annum as at December 31, 2021 with maturities through 2026	26,977	38,522
USD denominated	Fixed interest rates ranging from 3.13 % to 4.25 % per annum as at December 31, 2021 with maturities through 2043	11,379	11,127
		38,356	49,649
Total third parties' long-term debts		76,674	88,593
Less: Current portion		(4,637)	(10,293)
		72,037	78,300
Long-term loans from Sinopec Group Company and fellow subsidiaries			
RMB denominated	Interest rates ranging from 1.08% to 5.23% per annum as at December 31, 2021 with maturities through 2037	11,013	12,988
USD denominated	Interest rates at 1.65% per annum as at December 31, 2021 with maturities in 2027	1,387	1,168
Less: Current portion		(622)	(466)
		11,778	13,690
		83,815	91,990

Short-term and long-term bank loans, short-term other loans and loans from Sinopec Group Company and fellow subsidiaries are primarily unsecured and carried at amortized cost.

Note:

- (i) The Company issued corporate bonds with a maturity of five years on 26 July 2021 at par value of RMB 100. The total issued amount of the corporate bonds is RMB 5 billion. The corporate bonds adopt a simple interest rate on an annual basis with a fixed rate at 3.20% per annum and the interest is paid once a year.

The Company issued corporate bonds with a maturity of three years on 5 August 2021 at par value of RMB 100. The total issued amount of the corporate bonds is RMB 2 billion. The corporate bonds adopt a simple interest rate on an annual basis with a fixed rate at 2.95% per annum and the interest is paid once a year.

27. SHORT-TERM AND LONG-TERM DEBTS AND LOANS FROM SINOPEC GROUP COMPANY AND FELLOW SUBSIDIARIES

(Continued)

The Company issued corporate bonds with a maturity of two years on 6 August 2021 at par value of RMB 100. The total issued amount of the corporate bonds is RMB 2 billion. The corporate bonds adopt a simple interest rate on an annual basis with a fixed rate at 2.80% per annum and the interest is paid once a year.

The Company issued corporate bonds with a maturity of three years on 27 December 2021 at par value of RMB 100. The total issued amount of the corporate bonds is RMB 2.55 billion. The corporate bonds adopt a simple interest rate on an annual basis with a fixed rate at 2.50% per annum and the interest is paid once a year.

These corporate bonds are carried at amortized cost.

28. LEASE LIABILITIES

	December 31,	
	2020 RMB	2021 RMB
Lease liabilities		
Current	15,293	15,173
Non-current	171,740	170,233
	<u>187,033</u>	<u>185,406</u>

29. TRADE ACCOUNTS PAYABLE AND BILLS PAYABLE

	December 31,	
	2020 RMB	2021 RMB
Amounts due to third parties	132,256	193,547
Amounts due to Sinopec Group Company and fellow subsidiaries	11,512	4,227
Amounts due to associates and joint ventures	7,746	6,145
	<u>151,514</u>	<u>203,919</u>
Bills payable	10,394	11,721
Trade accounts payable and bills payable measured at amortized cost	<u>161,908</u>	<u>215,640</u>

30. CONTRACT LIABILITIES

As at December 31, 2020 and 2021, the Group's contract liabilities primarily represent advances from customers. Related performance obligations are expected to be satisfied and revenue is recognized within one year.

31. OTHER PAYABLES

	December 31,	
	2020 RMB	2021 RMB
Salaries and welfare payable	7,129	14,048
Interest payable	667	822
Payables for constructions	42,027	54,596
Other payables	59,023	93,764
Financial liabilities carried at amortized costs	<u>108,846</u>	<u>163,230</u>
Taxes other than income tax	70,262	76,458
	<u>179,108</u>	<u>239,688</u>

32. 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:

	2019 RMB	2020 RMB	2021 RMB
Balance as at January 1	42,007	42,438	43,713
Provision for the year	1,408	1,563	2,163
Accretion expenses	1,418	1,343	1,135
Decrease for the year	(2,439)	(1,490)	(6,435)
Exchange adjustments	44	(141)	(81)
Balance as at December 31	42,438	43,713	40,495

33. SHARE CAPITAL

	December 31,	
	2020 RMB	2021 RMB
Registered, issued and fully paid		
95,557,771,046 listed A shares (2020: 95,557,771,046) of RMB 1.00 each	95,558	95,558
25,513,438,600 listed H shares (2020: 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 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.

33. SHARE CAPITAL (Continued)

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 24,042,227,300.00 and the aggregate net proceeds (after deduction of the commissions and estimated expenses) amounted to approximately HKD 23,970,100,618.00.

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, 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 exercise of conversion by the holders of the 2011 Convertible Bonds.

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 exercise of conversion by the holders of the 2011 Convertible Bonds.

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 exercise of conversion by the holders of the 2011 Convertible Bonds.

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, debts and bonds. 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 and bonds. Management monitors capital on the basis of the debt-to-capital ratio, which is calculated by dividing long-term loans (excluding current portion) and debentures payable, including long-term debts and loans from Sinopec Group Company and fellow subsidiaries, by the total of equity attributable to owners of the Company and long-term loans (excluding current portion) and debentures payable, 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 10.1% and 10.6% as at December 31, 2020 and 2021, respectively. The liability-to-asset ratio of the Group was 49.0% and 51.6% as at December 31, 2020 and 2021, respectively.

The schedule of the contractual maturities of loans and commitments are disclosed in Notes 27 and 34, 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.

34. COMMITMENTS AND CONTINGENT LIABILITIES

Operating lease commitments

From January 1, 2019, the Group has recognized right-of-use assets for these leases, except for short-term and low-value leases, see Note 20 for further information.

34. COMMITMENTS AND CONTINGENT LIABILITIES (Continued)

Capital commitments

As at December 31, 2020 and 2021, the capital commitments of the Group are as follows:

	December 31,	
	2020 RMB	2021 RMB
Authorized and contracted for (i)	171,597	184,430
Authorized but not contracted for	33,997	90,227
	<u>205,594</u>	<u>274,657</u>

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 as at December 31, 2020 and 2021 of the Group were RMB 13,172 and RMB 3,648, 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 are registered with the Ministry of Natural 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 minimum exploration investment relating to the exploration blocks in respect of which the license is issued. The Ministry of Natural 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 Natural Resources annually which are expensed. Expenses recognized were approximately RMB 179, RMB 231 and RMB 181 for the years ended December 31, 2019, 2020 and 2021, respectively.

Estimated future annual payments are as follows:

	December 31,	
	2020 RMB	2021 RMB
Within one year	390	301
Between one and two years	99	112
Between two and three years	66	110
Between three and four years	63	102
Between four and five years	56	64
Thereafter	824	846
	<u>1,498</u>	<u>1,535</u>

34. COMMITMENTS AND CONTINGENT LIABILITIES (Continued)***Contingent liabilities***

As at December 31, 2020 and 2021, the guarantees by the Group in respect of facilities granted to the parties below are as follows:

	December 31,	
	2020 RMB	2021 RMB
Joint ventures (ii)	6,390	9,117
Associates (iii)	8,450	5,746
	<u>14,840</u>	<u>14,863</u>

Management monitors the risk that the specified debtor will default on the contract and recognizes a provision when ECLs on the financial guarantees are determined to be higher than the carrying amount in respect of the guarantees. At 31 December 2020 and 2021, the Group estimates that there is no material liability having been accrued for ECLs related to the Group's obligation under these guarantee arrangements.

Notes:

- (ii) The Group provided a guarantee in respect to standby credit facilities granted to Zhongan United Coal Chemical Co., Ltd. ("Zhongan United") by banks amounting to RMB 7,100. For the years ended December 31, 2020 and 2021 the amount withdrawn (The portion corresponding to the shareholding ratio of the Group) by Zhongan United from banks and guaranteed by the Group was RMB 6,390 and RMB 5,680. The Group provided a guarantee in respect to standby credit facilities granted to Amur Gas Chemical Complex Limited Liability Company ("Amur Gas") by banks amounting to RMB 23,208. For the years ended December 31, 2020 and 2021 the amount withdrawn (the portion corresponding to the shareholding ratio of the Group) by Amur Gas from banks and guaranteed by the Group was RMB Nil and RMB 3,264.

The Group provided a guarantee in respect to payment obligation under the raw material supply agreement of Amur Gas amount to RMB 15,493. For the years ended December 31, 2020 and 2021 Amur Gas has not yet incurred the relevant payment obligations and therefore the Group has no guarantee amount.

The Group provided a guarantee in respect the engineering services agreement of Amur Gas amounting to RMB 3,012. For the years ended December 31, 2020 and 2021 the relevant payables for constructions of Amur Gas (the portion corresponding to the shareholding ratio of the Group) and guaranteed by the Group was Nil and RMB 173.

- (iii) The Group provided a guarantee in respect to standby credit facilities granted to Zhongtian Synergetic Energy by banks amounting to RMB 17,050. For the years ended December 31, 2020 and 2021 the amount withdrawn (the portion corresponding to the shareholding ratio of the Group) by Zhongtian Synergetic Energy from banks and guaranteed by the Group was RMB 8,450 and RMB 5,746.

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.

34. COMMITMENTS AND CONTINGENT LIABILITIES (Continued)

Environmental contingencies (Continued)

The Group paid normal routine pollutant discharge fees of approximately RMB 9,278, RMB 11,368 and RMB 10,968 in the consolidated financial statements for the years ended December 31, 2019, 2020 and 2021, 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 unfavorable 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.

35. BUSINESS COMBINATIONS

Pursuant to the resolution passed at the Directors' meeting on October 28, 2020, the Company entered into an Agreement with Sinopec Assets Management Corporation ("SAMC") in relation to the formation of Sinopec Baling Petrochemical CO.Ltd ("BalingPetrochemical"). According to the Agreement, the Company and SAMC subscribed capital contribution with the business of Baling area respectively and some cash. After the capital injection, the Company remained to hold 55% of Baling Petrochemical's voting rights and was still able to control Baling Petrochemical.

As Sinopec Group Company controls both the Company and SAMC, the transaction described above between Sinopec and SAMC has been accounted as business combination under common control. Accordingly, the assets and liabilities of which SAMC subscribed 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 Baling Branch of SAMC on a combined basis.

Baling Petrochemical is mainly engaged in the production and sales of petrochemicals, chemical fibers, fertilizers, fine chemical products and other chemical products.

35. BUSINESS COMBINATIONS (Continued)

The financial condition as at December 31, 2019 and the results of operation for the year ended December 31, 2019 previously reported by the Group have been restated, as set out below:

	The Group, as previously reported RMB million	Baling Branch of SAMC RMB million	Elimination and Adjustment RMB million	The Group, as restated RMB million
Summarized consolidated income statement for the year ended December 31, 2019:				
Revenue	2,966,193	16,906	(23,300)	2,959,799
Net income attributable to owners of the Company	57,465	50	(22)	57,493
Net income attributable to non-controlling interests	14,568	—	22	14,590
Basic earnings per share (RMB)	0.48	0.0004	—	0.48
Diluted earnings per share (RMB)	0.48	0.0004	—	0.48
Summarized consolidated statement of financial position as at December 31, 2019:				
Current assets	455,856	2,097	(643)	447,310
Total assets	1,755,071	5,858	(643)	1,760,286
Current liabilities	576,374	4,247	(643)	579,978
Total liabilities	879,236	4,389	(643)	882,982
Total equity attributable to owners of the Company	738,150	1,448	(652)	738,946
Non-controlling interests	137,685	21	652	138,358
Summarized consolidated statement of cash flows for the year ended December 31, 2019:				
Net cash generated from operating activities	153,420	199	—	153,619
Net cash used in investing activities	(120,463)	(588)	—	(121,051)
Net cash used in from financing activities	(84,713)	509	—	(84,204)
Net increase in cash and cash equivalents	(51,756)	120	—	(51,636)

Pursuant to resolution passed at the Director's meeting on 26 March 2021, the Company entered into agreements with Sinopec Assets Management Corporation ("SAMC") and Beijing Orient Petrochemical Industry Co., Ltd. ("BJOPI"), and its subsidiary, Sinopec Beihai Refining and Chemical Limited Liability Company entered into an agreement with Beihai Petrochemical Limited Liability Company of Sinopec Group ("BHP"). According to the relevant agreements, the Company proposed to acquire non equity assets such as the polypropylene devices and utility business assets of Cangzhou Branch held by SAMC, organic plant business held by BJOPI, and the pier operation platform held by BHP.

Pursuant to the resolution passed at the Directors' meeting on 29 November 2021, the Company entered into agreements with SAMC, and Sinopec Beijing Yanshan Petrochemical Co., Ltd. ("SBJYSP"), and its subsidiary, Sinopec Yizheng Chemical Fibre Company Limited entered into an agreement with SAMC. According to the relevant agreements, the Group proposed to acquire non equity assets such as thermal power, water and other business, PBT resin and other business of Yizheng Branch held by SAMC, and thermal power and other businesses held by SBJYSP.

The consideration of the transaction amount to RMB 6,124.

As the Company, SAMC, BJOPI, BHP and SBJYSP are all under the control of Sinopec Group Company, the transaction described above has been accounted as business combination under common control. Accordingly, the equity and assets acquired from Sinopec Group Company 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 Sinopec Group Company on a combined basis.

The transactions under the after-mentioned agreements will further improve the integrated operation level of the Group, optimize the allocation of resources, reduce connected transactions on the whole, so as to enhance the comprehensive competitiveness of the Group in its business locations.

35. BUSINESS COMBINATION (Continued)

The financial condition as at December 31, 2020 and the results of operation for the years ended December 31, 2019 and 2020 previously reported by the Group have been restated, as set out below:

	<u>The Group, as previously reported</u> RMB million	<u>Acquired assets and liabilities of Sinopec Group Company</u> RMB million	<u>Elimination and Adjustment</u> RMB million	<u>The Group, as restated</u> RMB million
Summarized consolidated income statement for the year ended December 31, 2019:				
Revenue	2,959,799	12,918	(14,849)	2,957,868
Net income attributable to owners of the Company	57,493	24	—	57,517
Net income attributable to non-controlling interests	14,590	—	—	14,590
Basic earnings per share (RMB)	0.4749	0.0002	—	0.4751
Diluted earnings per share (RMB)	0.4749	0.0002	—	0.4751

Summarized consolidated statement of cash flows for the year ended December 31, 2019:

Net cash generated from operating activities	153,619	761	—	154,380
Net cash used in investing activities	(121,051)	(263)	—	(121,314)
Net cash used in from financing activities	(84,204)	(498)	—	(84,702)
Net increase in cash and cash equivalents	(51,636)	—	—	(51,636)

	<u>The Group, as previously reported</u> RMB million	<u>Acquired assets and liabilities of Sinopec Group Company</u> RMB million	<u>Elimination and Adjustment</u> RMB million	<u>The Group, as restated</u> RMB million
Summarized consolidated income statement for the year ended December 31, 2020:				
Revenue	2,105,984	12,233	(13,493)	2,104,724
Net income attributable to owners of the Company	33,096	347	—	33,443
Net income attributable to non-controlling interests	8,828	—	—	8,828
Basic earnings per share (RMB)	0.273	0.003	—	0.276
Diluted earnings per share (RMB)	0.273	0.003	—	0.276

Summarized consolidated statement of financial position as at December 31, 2020:

Current assets	455,395	480	(215)	455,660
Total assets	1,733,805	5,875	(784)	1,738,896
Current liabilities	522,190	1,020	(215)	522,995
Total liabilities	850,947	1,031	(784)	851,194
Total equity attributable to owners of the Company	741,494	4,831	—	746,325
Non-controlling interests	141,364	13	—	141,377

Summarized consolidated statement of cash flows for the year ended December 31, 2020:

Net cash generated from operating activities	167,518	1,002	—	168,520
Net cash used in investing activities	(102,203)	(447)	—	(102,650)
Net cash used in from financing activities	(36,955)	(555)	—	(37,510)
Net increase in cash and cash equivalents	28,360	—	—	28,360

36. 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:

	Note	Years ended December 31,		
		2019 RMB	2020 RMB	2021 RMB
Sales of goods	(i)	279,784	228,307	297,381
Purchases	(ii)	181,944	151,300	191,888
Transportation and storage	(iii)	8,097	8,734	19,443
Exploration and development services	(iv)	33,310	31,444	33,930
Production related services	(v)	38,603	31,915	44,405
Ancillary and social services	(vi)	3,017	2,952	1,730
Agency commission income	(vii)	116	160	194
Interest income	(viii)	1,066	704	715
Interest expense	(ix)	1,334	919	385
Net deposits withdrawn from/ (placed with) related parties	(x)	5,230	(17,585)	(8,265)
Net funds obtained from/ (placed with) related parties	(ix)	3,438	(31,144)	30,305

The amounts set out in the table above in respect of each of the years in the three-year period ended December 31 represent the relevant costs and income as determined by the corresponding contracts with the related parties.

For the years ended December 31, 2020 and 2021, no individually significant right-of-use assets were leased from Sinopec Group Company and fellow subsidiaries, associates and joint ventures by the Group. The interest expense recognized for the years ended December 31, 2020 and 2021 on lease liabilities in respect of amounts due to Sinopec Group Company and fellow subsidiaries, associates and joint ventures was RMB 8,160 and RMB 7,863.

For the years ended December 31, 2019, 2020 and 2021, the amount of rental the Group paid to Sinopec Group Company and fellow subsidiaries, associates and joint ventures for land are RMB 11,333, RMB 11,090 and RMB 10,834, respectively. For the years ended December 31, 2019, 2020 and 2021, the amount of rental the Group paid to Sinopec Group Company and fellow subsidiaries, associates and joint ventures for buildings are RMB 518, RMB 571 and RMB 572, respectively. For the years ended December 31, 2019, 2020 and 2021, the amount of rental the Group paid to Sinopec Group Company and fellow subsidiaries, associates and joint ventures for others are RMB 468, RMB 330 and RMB 269, respectively.

As at December 31, 2020 and 2021, there was no guarantee given to banks by the Group in respect of banking facilities to Sinopec Group Company and fellow subsidiaries, associates and joint ventures, except for the guarantees disclosed in Note 34. Guarantees given to banks by the Group in respect of banking facilities to associates and joint ventures are disclosed in Note 34.

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 non-executive directors.

36. RELATED PARTY TRANSACTIONS *(Continued)*

(a) Transactions with Sinopec Group Company and fellow subsidiaries, associates and joint ventures *(Continued)*

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, environmental protection and management services.
- (vi) Ancillary and social services represent expenditures for social welfare and support services such as educational facilities, media communication services, sanitation, accommodation, canteens, and property maintenance.
- (vii) 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.
- (viii) Interest income represents interest received from deposits placed with Sinopec Finance 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 at December 31, 2020 and 2021 were RMB 53,417 and RMB 61,682, respectively.
- (ix) Interest expense represents interest charges on the loans obtained from Sinopec Group Company and fellow subsidiaries.
- (x) The Group obtained loans, discounted bills and issued the acceptance bills from Sinopec Group Company and fellow subsidiaries.

36. RELATED PARTY TRANSACTIONS (Continued)

(a) Transactions with Sinopec Group Company and fellow subsidiaries, associates and joint ventures (Continued)

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 31 December 2021. 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 1 January 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 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.
- On the basis of a series of continuing connected transaction agreements signed in 2000, the Company and Sinopec Group Company have signed the Sixth Supplementary Agreement on August 27, 2021, which took effect on January 1, 2022 and made adjustment to “Mutual Supply Agreement” and “Buildings Leasing Contract”, etc.

36. RELATED PARTY TRANSACTIONS (Continued)

(a) Transactions with Sinopec Group Company and fellow subsidiaries, associates and joint ventures (Continued)

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,	
	2020 RMB	2021 RMB
Trade accounts receivable	16,777	8,655
Financial assets at fair value through other comprehensive income	760	186
Prepaid expenses and other current assets	19,422	14,537
Long-term prepayments and other assets	6,435	3,116
Total	43,394	26,494
Trade accounts payable and bills payable	22,792	14,170
Contract liabilities	5,937	4,677
Other payables	12,759	50,649
Other long-term liabilities	3,010	2,779
Short-term loans and current portion of long-term loans from Sinopec Group Company and fellow subsidiaries	5,264	2,873
Long-term loans excluding current portion from Sinopec Group Company and fellow subsidiaries	11,778	13,690
Lease liabilities (including to be paid within one year)	162,048	158,761
Total	223,588	247,599

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 27.

As at and for the year ended December 31, 2021, and as at and for the year ended December 31, 2020, no individually significant loss allowance for ECLs 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,		
	2019 RMB'000	2020 RMB'000	2021 RMB'000
Short-term employee benefits	9,209	5,753	4,612
Retirement scheme contributions	536	342	379
	9,745	6,095	4,991

(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 37. As at December 31, 2020 and 2021, the accrual for the contribution to post-employment benefit plans was not material.

36. RELATED PARTY TRANSACTIONS (Continued)

(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 followings:

- sales and purchases of goods and ancillary materials;
- rendering and receiving services;
- lease of assets;
- depositing and borrowing money; and
- uses 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.

37. 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 13.0% to 16.0% 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 8.0% 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, 2019, 2020 and 2021 were RMB 12,025, RMB 8,983 and RMB 11,932, respectively.

38. 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 comprises 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 profit 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 debts, income tax payable, long-term debts, loans from Sinopec Group Company and fellow subsidiaries, deferred tax liabilities and other unallocated liabilities.

38. SEGMENT REPORTING (Continued)

(1) Information of reportable segmental revenues, profits or losses, assets and liabilities (Continued)

Information of the Group's reportable segments is as follows:

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Sales of goods			
Exploration and production			
External sales	111,114	104,524	156,026
Inter-segment sales	89,315	57,513	87,298
	<u>200,429</u>	<u>162,037</u>	<u>243,324</u>
Refining			
External sales	140,837	113,214	167,948
Inter-segment sales	1,077,436	826,219	1,212,455
	<u>1,218,273</u>	<u>939,433</u>	<u>1,380,403</u>
Marketing and distribution			
External sales	1,393,557	1,062,447	1,367,605
Inter-segment sales	4,159	4,854	7,075
	<u>1,397,716</u>	<u>1,067,301</u>	<u>1,374,680</u>
Chemicals			
External sales	429,367	322,169	424,774
Inter-segment sales	78,478	40,702	70,242
	<u>507,845</u>	<u>362,871</u>	<u>495,016</u>
Corporate and others			
External sales	824,507	458,154	563,147
Inter-segment sales	654,337	430,073	732,356
	<u>1,478,844</u>	<u>888,227</u>	<u>1,295,503</u>
Elimination of inter-segment sales	<u>(1,903,725)</u>	<u>(1,371,215)</u>	<u>(2,109,426)</u>
Sales of goods	<u>2,899,382</u>	<u>2,048,654</u>	<u>2,679,500</u>
Other operating revenues			
Exploration and production	10,283	5,718	6,674
Refining	5,460	4,633	5,161
Marketing and distribution	33,247	34,905	36,864
Chemicals	7,646	8,758	10,487
Corporate and others	1,850	2,056	2,198
Other operating revenues	<u>58,486</u>	<u>56,070</u>	<u>61,384</u>
Sales of goods and other operating revenues	<u>2,957,868</u>	<u>2,104,724</u>	<u>2,740,884</u>

38. SEGMENT REPORTING (Continued)
(1) Information of reportable segmental revenues, profits or losses, assets and liabilities (Continued)

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Result			
Operating income / (loss)			
By segment			
- Exploration and production	9,284	(16,476)	4,685
- Refining	30,706	(5,525)	65,279
- Marketing and distribution	29,107	20,828	21,204
- Chemicals	17,395	10,818	11,106
- Corporate and others	64	(393)	(3,225)
- Elimination	(40)	4,417	(4,421)
Total segment operating income	86,516	13,669	94,628
Share of profit/(loss) from associates and joint ventures			
- Exploration and production	3,167	2,117	2,783
- Refining	(640)	(2,516)	662
- Marketing and distribution	3,309	2,200	3,731
- Chemicals	4,611	1,723	11,323
- Corporate and others	2,330	3,188	4,754
Aggregate share of profits from associates and joint ventures	12,777	6,712	23,253
Investment income			
- Exploration and production	(19)	13,118	55
- Refining	59	14,941	(10)
- Marketing and distribution	73	8,980	3
- Chemicals	578	(61)	(54)
- Corporate and others	228	766	304
Aggregate investment income	919	37,744	298
Net finance costs	(10,051)	(9,510)	(9,010)
Earnings before income tax	90,161	48,615	109,169

38. SEGMENT REPORTING (Continued)
(1) Information of reportable segmental revenues, profits or losses, assets and liabilities (Continued)

	December 31,		
	2019	2020	2021
	RMB	RMB	RMB
Assets			
Segment assets			
- Exploration and production	410,950	354,024	371,100
- Refining	321,442	270,766	304,785
- Marketing and distribution	399,242	373,430	377,499
- Chemicals	186,028	190,789	222,803
- Corporate and others	131,686	118,458	133,961
Total segment assets	1,449,348	1,307,467	1,410,148
Interest in associates and joint ventures	152,204	188,342	209,179
Financial assets at fair value through other comprehensive income	1,521	1,525	767
Deferred tax assets	17,616	25,054	19,389
Cash and cash equivalents, time deposits with financial institutions	128,052	188,057	221,989
Other unallocated assets	16,961	28,451	27,783
Total assets	1,765,702	1,738,896	1,889,255
Liabilities			
Segment liabilities			
- Exploration and production	167,933	163,588	166,486
- Refining	122,371	136,980	146,763
- Marketing and distribution	226,531	234,309	228,826
- Chemicals	58,591	49,625	69,977
- Corporate and others	137,881	119,215	198,828
Total segment liabilities	713,307	703,717	810,880
Short-term debts	40,521	23,769	35,252
Income tax payable	3,267	6,586	4,809
Long-term debts	49,208	72,037	78,300
Loans from Sinopec Group Company and fellow subsidiaries	52,915	17,042	16,563
Deferred tax liabilities	6,809	8,124	7,910
Other unallocated liabilities	17,597	19,919	20,467
Total liabilities	883,624	851,194	974,181

38. SEGMENT REPORTING (Continued)

(1) Information of reportable segmental revenues, profits or losses, assets and liabilities (Continued)

	Years ended December 31,		
	2019 RMB	2020 RMB	2021 RMB
Capital expenditure			
Exploration and production	61,739	56,416	68,148
Refining	31,372	24,756	22,469
Marketing and distribution	29,566	25,403	21,897
Chemicals	23,551	28,217	51,648
Corporate and others	1,979	2,312	3,786
	<u>148,207</u>	<u>137,104</u>	<u>167,948</u>
Depreciation, depletion and amortization			
Exploration and production	50,732	46,273	52,880
Refining	19,718	20,090	20,743
Marketing and distribution	21,572	23,196	23,071
Chemicals	14,755	14,830	16,093
Corporate and others	2,866	3,072	2,893
	<u>109,643</u>	<u>107,461</u>	<u>115,680</u>
Impairment losses on long-lived assets			
Exploration and production	3	8,495	2,467
Refining	256	1,923	860
Marketing and distribution	80	536	1,211
Chemicals	17	3,675	5,332
Corporate and others	—	—	165
	<u>356</u>	<u>14,629</u>	<u>10,035</u>

(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,		
	2019 RMB	2020 RMB	2021 RMB
External sales			
Mainland China	2,122,753	1,720,695	2,166,040
Singapore	505,672	215,846	278,024
Others	329,443	168,183	296,820
	<u>2,957,868</u>	<u>2,104,724</u>	<u>2,740,884</u>
		December 31,	
	2019 RMB	2020 RMB	2021 RMB
Non-current assets			
Mainland China	1,240,949	1,216,267	1,268,814
Others	52,705	36,782	40,551
	<u>1,293,654</u>	<u>1,253,049</u>	<u>1,309,365</u>

39. PRINCIPAL SUBSIDIARIES

As at December 31, 2021, 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 Great Wall Energy & Chemical Company Limited	RMB 22,761	100.00	—	Coal chemical industry investment management, production and sale of coal chemical products
Sinopec Yangzi Petrochemical Company Limited	RMB 15,651	100.00	—	Manufacturing of intermediate petrochemical products and petroleum products
Sinopec Overseas Investment Holding Limited ("SOIH")	USD 3,009	100.00	—	Investment holding of overseas business
Sinopec International Petroleum Exploration and Production Limited ("SIPL")	RMB 8,250	100.00	—	Investment in exploration, production and sale of petroleum and natural gas
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
China International United Petroleum and Chemical Company Limited	RMB 5,000	100.00	—	Trading of crude oil and petrochemical products
Sinopec Qingdao Petrochemical Company Limited	RMB 1,595	100.00	—	Manufacturing of intermediate petrochemical products and petroleum products
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 Chemical Sales Company Limited	RMB 1,000	100.00	—	Marketing and distribution of petrochemical products
Sinopec Hainan Refining and Chemical Company Limited	RMB 9,606	100.00	—	Manufacturing of intermediate petrochemical products and petroleum 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
ZhongKe (Guangdong) Refinery & Petrochemical Company Limited	RMB 6,397	90.30	9.70	Crude oil processing and petroleum products manufacturing
Sinopec Qingdao Refining and Chemical Company Limited	RMB 5,000	85.00	15.00	Manufacturing of intermediate petrochemical products and petroleum products
Marketing Company	RMB 28,403	70.42	29.58	Marketing and distribution of refined petroleum products
Shanghai SECCO	RMB 500	67.59	32.41	Production and sale of petrochemical products
Sinopec Kantons Holdings Limited ("Sinopec Kantons")	HKD 248	60.33	39.67	Provision of crude oil jetty services and natural gas pipeline transmission services
Sinopec-SK (Wuhan) Petrochemical Company Limited ("Sinopec-SK")	RMB 7,193	59.00	41.00	Production, sale, research and development of petrochemical products, ethylene and downstream byproducts
Gaoqiao Petrochemical Company Limited	RMB 10,000	55.00	45.00	Manufacturing of intermediate petrochemical products and petroleum products
Baling Petrochemical	RMB 3,000	55.00	45.00	Crude oil processing and petroleum products manufacturing
Sinopec Shanghai Petrochemical Company Limited ("Shanghai Petrochemical")	RMB 10,824	50.44	49.56	Manufacturing of synthetic fibres, resin and plastics, intermediate petrochemical products and petroleum products
Fujian Petrochemical Company Limited ("Fujian Petrochemical") (i)	RMB 10,492	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 SAR respectively, all of the above principal subsidiaries are incorporated and operate their businesses principally in the PRC. All of the above principal subsidiaries are limited companies.

Note:

- (i) 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.

39. PRINCIPAL SUBSIDIARIES (Continued)

Summarized consolidated statement of financial position

	Marketing Company		SIPL*		Shanghai Petrochemical		Fujian Petrochemical		Sinopec Kantons		Shanghai SECCO		Sinopec-SK	
	December 31,		December 31,		December 31,		December 31,		December 31,		December 31,		December 31,	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Current assets	172,352	159,599	22,620	22,759	17,305	20,932	1,582	1,464	4,373	4,761	10,431	6,066	3,639	6,791
Current liabilities	(201,678)	(193,315)	(475)	(1,430)	(15,232)	(15,796)	(458)	(142)	(924)	(196)	(2,783)	(5,434)	(6,377)	(8,122)
Net current (liabilities)/ assets	(29,326)	(33,716)	22,145	21,329	2,073	5,136	1,124	1,322	3,449	4,565	7,648	632	(2,738)	(1,331)
Non-current assets	323,571	326,437	8,951	8,954	27,314	25,988	12,568	13,208	9,106	8,195	12,177	11,402	22,187	20,650
Non-current liabilities	(59,554)	(59,604)	(18,270)	(17,823)	(52)	(747)	(693)	(700)	(170)	(170)	(1,553)	(1,418)	(8,509)	(7,512)
Net non-current assets/(liabilities)	264,017	266,833	(9,319)	(8,869)	27,262	25,241	11,875	12,508	8,936	8,025	10,624	9,984	13,678	13,138
Net assets	234,691	233,117	12,826	12,460	29,335	30,377	12,999	13,830	12,385	12,590	18,272	10,616	10,940	11,807
Attributable to owners of the Company	159,205	157,557	5,876	6,341	14,727	15,254	6,499	6,915	7,454	7,579	12,352	7,175	6,455	6,966
Attributable to non-controlling interests	75,486	75,560	6,950	6,119	14,608	15,123	6,500	6,915	4,931	5,011	5,920	3,441	4,485	4,841

Summarized consolidated statement of comprehensive income

Year ended December 31,	Marketing Company			SIPL*			Shanghai Petrochemical			Fujian Petrochemical			Sinopec Kantons			Shanghai SECCO			Sinopec-SK		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Operating revenues	1,427,705	1,099,680	1,408,523	3,282	2,017	2,166	100,270	74,624	89,198	5,535	4,871	5,549	1,274	1,064	528	28,341	21,626	29,723	31,016	28,702	50,208
Net income/(loss) for the year	22,992	22,415	18,582	2,831	1,160	1,429	2,227	656	2,077	477	243	951	1,131	2,047	871	3,137	2,132	2,817	701	(920)	1,606
Total comprehensive income	23,362	21,149	18,439	2,693	(720)	1,045	2,235	645	2,218	477	243	951	1,140	1,814	677	3,137	2,132	2,817	701	(920)	1,606
Comprehensive income attributable to non-controlling interests	8,289	7,205	6,822	1,651	(287)	579	1,113	325	1,101	238	121	476	433	707	268	1,016	691	2,390	245	(377)	659
Dividends paid to non-controlling interests	4,830	2,766	7,064	10,926	316	—	1,344	649	541	650	150	64	159	175	164	822	767	1,028	—	—	—

Summarized statement of cash flows

Year ended December 31,	Marketing Company			SIPL*			Shanghai Petrochemical			Fujian Petrochemical			Sinopec Kantons			Shanghai SECCO			Sinopec-SK		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
Net cash generated from/(used in) operating activities	40,260	54,139	28,923	2,128	281	690	5,057	1,680	3,950	622	(244)	(292)	716	586	133	4,601	3,119	3,447	5,532	(363)	5,476
Net cash (used in)/ generated from investing activities	(25,923)	(40,010)	2,420	678	(2,659)	15	(4,623)	(3,888)	(2,359)	(472)	(649)	420	397	3,846	1,276	(91)	(4,335)	1,534	(4,987)	(2,340)	(1,789)
Net cash (used in)/ generated from financing activities	(21,535)	(12,402)	(31,081)	(116)	1,683	(1,172)	(1,737)	1,682	(3,393)	(163)	882	(142)	(1,208)	(1,250)	(1,066)	(2,050)	(2,879)	(7,828)	250	2,176	(653)
Net (decrease)/increase in cash and cash equivalents	(7,198)	1,727	262	2,690	(695)	(467)	(1,303)	(526)	(1,802)	(13)	(11)	(14)	(95)	3,182	343	2,460	(4,095)	(2,847)	795	(527)	3,034
Cash and cash equivalents as at January 1	14,142	6,901	8,642	5,993	8,833	7,699	8,742	7,450	6,916	92	79	68	198	117	3,182	6,817	9,278	5,181	798	1,593	1,066
Effect of foreign currency exchange rate changes	(43)	14	95	150	(439)	(164)	11	(8)	(2)	—	—	—	14	(117)	(93)	1	(2)	(1)	—	—	—
Cash and cash equivalents as at December 31	6,901	8,642	8,999	8,833	7,699	7,068	7,450	6,916	5,112	79	68	54	117	3,182	3,432	9,278	5,181	2,333	1,593	1,066	4,100

*The non-controlling interests of subsidiaries which the Group holds 100% of equity interests at the end of the year are the non-controlling interests of their subsidiaries.

40. FINANCIAL RISK MANAGEMENT AND FAIR VALUES

Overview

Financial assets of the Group include cash and cash equivalents, time deposits with financial institutions, financial assets at fair value through profit or loss, derivative financial assets, trade accounts receivable, amounts due from Sinopec Group Company and fellow subsidiaries, amounts due from associates and joint ventures, financial assets at FVOCI and other receivables. Financial liabilities of the Group include short-term debts, loans from Sinopec Group Company and fellow subsidiaries, derivative financial liabilities, trade accounts payable and bills payable, amounts due to Sinopec Group Company and fellow subsidiaries, amounts due to associates and joint ventures, other payables, long-term debts and lease liabilities.

The Group has exposure to the following risks from its uses of financial instruments:

- credit risk;
- liquidity risk; and

40. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (Continued)

Overview (Continued)

- 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

(i) Risk management

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 (including structured deposits) 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 trade accounts receivable as at December 31, 2021, 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 a loss allowance for ECLs and actual losses have been within management's expectations.

The carrying amounts of cash and cash equivalents, time deposits with financial institutions, financial assets at fair value through profit or loss, derivative financial assets, trade accounts receivable, financial assets at FVOCI and other receivables, represent the Group's maximum exposure to credit risk in relation to financial assets.

(ii) Impairment of financial assets

The Group's primary type of financial assets that are subject to the expected credit loss model is trade accounts receivable, financial assets at FVOCI and other receivables.

The Group's cash deposits are placed only with large financial institutions with acceptable credit ratings, and there is no material impairment loss identified.

For trade accounts receivable and financial assets at FVOCI, the Group applies the IFRS 9 simplified approach to measuring ECLs which uses a lifetime expected loss allowance for all trade accounts receivable and financial assets at FVOCI.

To measure the ECLs, trade accounts receivable and financial assets at FVOCI have been grouped based on shared credit risk characteristics and the days past due.

The ECLs were calculated based on historical actual credit loss experience. The rates were considered the differences between economic conditions during the period over which the historical data has been collected, current conditions and the Group's view of economic conditions over the expected lives of the receivables. The Group performed the calculation of ECL rates by the operating segment.

40. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (Continued)

Credit risk (Continued)

The following table provides information about the exposure to credit risk and ECLs for accounts receivable as at December 31, 2021 and 2020.

	Gross carrying amount RMB	Impairment provision on individual basis		Impairment provision on provision matrix basis		
		Carrying amount RMB	Impairment provision on individual basis RMB	Weighted-average loss rate %	Impairment provision RMB	Loss allowance RMB
December 31, 2020						
Current and within 1 year past due	34,478	5,023	117	0.0 %	—	117
1 to 2 years past due	4,062	3,637	3,024	25.2 %	107	3,131
2 to 3 years past due	149	27	18	54.9 %	67	85
Over 3 years past due	610	218	182	88.0 %	345	527
Total	39,299	8,905	3,341		519	3,860

	Gross carrying amount RMB	Impairment provision on individual basis		Impairment provision on provision matrix basis		
		Carrying amount RMB	Impairment provision on individual basis RMB	Weighted-average loss rate %	Impairment provision RMB	Loss allowance RMB
December 31, 2021						
Current and within 1 year past due	34,263	4,280	26	0.2 %	57	83
1 to 2 years past due	623	500	137	35.8 %	44	181
2 to 3 years past due	3,411	3,324	3,146	50.6 %	44	3,190
Over 3 years past due	597	208	190	100.0 %	389	579
Total	38,894	8,312	3,499		534	4,033

All of the entity's other receivables are considered to have low credit risk, and the loss allowance recognized during the period was therefore limited to 12 months expected losses. The Group considers there was no significant increase in credit risk for other receivables by taking into account of their past history of making payments when due and current ability to pay, and thus the impairment provision recognized during the period was limited to 12 months expected losses.

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 to 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 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 at December 31, 2020 and 2021, the Group has standby credit facilities with several PRC financial institutions which provide borrowings up to RMB 443,966 and RMB 441,559 on an unsecured basis, at a weighted average interest rate of 2.85% and 2.81% per annum, respectively. As at December 31, 2020 and 2021, the Group's outstanding borrowings under these facilities were RMB 4,041 and RMB 11,700 and were included in debts, respectively.

40. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (Continued)

Liquidity risk (Continued)

The following table sets out the remaining contractual maturities at the date of the statement of financial position 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 date of the statement of financial position) and the earliest date the Group would be required to repay:

	December 31, 2020					
	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	23,769	25,280	25,280	—	—	—
Long-term debts	72,037	80,562	1,339	11,753	60,414	7,056
Loans from Sinopec Group Company and fellow subsidiaries	17,042	17,978	5,512	929	10,109	1,428
Lease liabilities	187,033	328,501	15,957	15,456	43,513	253,575
Derivative financial liabilities	4,826	4,826	4,826	—	—	—
Trade accounts payable and bills payable	161,908	161,908	161,908	—	—	—
Other payables	94,083	94,083	94,083	—	—	—
	560,698	713,138	308,905	28,138	114,036	262,059
	December 31, 2021					
	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	35,252	35,871	35,871	—	—	—
Long-term debts	78,300	85,718	2,169	49,390	27,518	6,641
Loans from Sinopec Group Company and fellow subsidiaries	16,563	18,457	3,174	604	10,712	3,967
Lease liabilities	185,406	296,485	15,833	12,031	35,411	233,210
Derivative financial liabilities	3,223	3,223	3,223	—	—	—
Trade accounts payable and bills payable	215,640	215,640	215,640	—	—	—
Other payables	131,468	131,468	131,468	—	—	—
	665,852	786,862	407,378	62,025	73,641	243,818

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 does not have significant financial instruments that are denominated in foreign currencies other than the functional currencies of respective entities as at December 31, and consequently does not have significant exposure to foreign currency risk.

40. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (Continued)

Interest rate risk

The Group's interest rate risk exposure arises primarily from its short-term and long-term debts and loans from Sinopec Group Company and fellow subsidiaries. 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 and terms of repayment of short-term and long-term debts, and loans from Sinopec Group Company and fellow subsidiaries of the Group are disclosed in Note 27.

As at December 31, 2020, 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 for the year by approximately RMB 245. As at December 31, 2021, 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 for the year by approximately RMB 254. This sensitivity analysis has been determined assuming that the change of interest rates was applied to the Group's debts outstanding at the date of the statement of financial position with exposure to cash flow interest rate risk. The analysis is performed on the same basis for 2020.

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 contracts, to manage a portion of this risk.

Based on the dynamic study and judging of the market, combined with the resource demand and production and operation plan, the group evaluate and monitor the market risk exposure caused by transaction positions, and continuously manage and hedge the risk of commodity price fluctuation caused by market changes.

As at December, 31, 2020 and 2021, the Group had certain commodity contracts of crude oil, refined oil products and chemical products designated as qualified cash flow hedges and economic hedges. As at December 31, 2020 and 2021, the fair value of such derivative hedging financial instruments is derivative financial assets of RMB 12,353 and RMB 18,359, respectively, and derivative financial liabilities of RMB 4,808 and RMB 3,214, respectively.

As at December 31, 2020, 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 increase/decrease the Group's net income for the year by approximately RMB 3,592 and increase/decrease the Group's other reserves by approximately RMB 10,379. As at December 31, 2021, 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 for the year by approximately RMB 2,996 and decrease/increase the Group's other reserves by approximately RMB 1,160. This sensitivity analysis has been determined assuming that the change in prices had occurred at the date of the statement of financial position 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 2020.

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 date of the statement of financial position 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.

40. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (Continued)

Fair values (Continued)

- Level 3 (lowest level): fair values measured using valuation techniques in which any significant input is not based on observable market data.

	December 31, 2020			
	Level 1	Level 2	Level 3	Total
	RMB	RMB	RMB	RMB
Assets				
Financial assets at fair value through profit or loss:				
- Equity investments, listed and at quoted market price	1	—	—	1
Derivative financial assets:				
- Derivative financial assets	9,628	2,900	—	12,528
Financial assets at fair value through other comprehensive income:				
- Equity investments	149	—	1,376	1,525
-Trade accounts receivable and bills receivable	—	—	8,735	8,735
	<u>9,778</u>	<u>2,900</u>	<u>10,111</u>	<u>22,789</u>
Liabilities				
Derivative financial liabilities:				
- Derivative financial liabilities	2,471	2,355	—	4,826
	<u>2,471</u>	<u>2,355</u>	<u>—</u>	<u>4,826</u>

During the years ended December 31, 2020 and 2021, there was no transfer between instruments in Level 1 and Level 2.

Management of the Group uses discounted cash flow model with inputted interest rate and commodity index, which were influenced by historical fluctuation and the probability of market fluctuation, to evaluate the fair value of the structured deposits and trade accounts receivable and bills receivable classified as Level 3 financial assets.

(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 IFRS 9 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 judgement 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.

40. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (Continued)***Fair values (Continued)***

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 for debt with substantially the same characteristic and maturities range from 0.77% to 4.65% and from 0.30% to 4.65% for the years ended December 31, 2020 and 2021, 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 at December 31, 2020 and 2021:

	December 31,	
	2020	2021
	RMB	RMB
Carrying amount	76,674	88,593
Fair value	74,282	85,610

The Group has not developed an internal valuation model necessary to estimate the fair values of loans from Sinopec Group Company and fellow subsidiaries as it is not considered practicable to estimate their fair values because the cost of obtaining discount and borrowing rates for comparable borrowings would be excessive based on the Reorganization of the Group, the Group's existing capital structure and the terms of the borrowings.

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 at December 31, 2020 and 2021.

41. ACCOUNTING ESTIMATES AND JUDGEMENTS

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 judgements about matters that are not readily apparent from other sources. On an ongoing 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 judgements 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 judgements 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 judgements 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 estimates of proved and proved developed reserves also change. This change is considered a change in estimate for accounting purposes and is reflected on a prospective basis in relation to 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.

41. ACCOUNTING ESTIMATES AND JUDGEMENTS (Continued)

Oil and gas properties and reserves (Continued)

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 provisions 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, including environmental protection and energy structure transition variables, 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 units are discounted to their present value, which requires significant judgement relating to future selling prices of crude oil, natural gas, refined and chemical products, the production costs, the product mix, production volumes, production profiles, the oil and gas reserves and discount rate. 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, amount of operating costs and discount rate.

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.

Measurement of ECLs

The Group measures and recognizes ECLs using readiness matrix, considering reasonable and supportable information about the relevant past events, current conditions and forecasts of future economic conditions. The Group regularly monitors and reviews the assumptions used for estimating ECLs.

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.

42. PARENT AND ULTIMATE HOLDING COMPANY

The directors consider the parent and ultimate holding company of the Group as at December 31, 2021 is Sinopec Group Company, a state-owned enterprise established in the PRC. This entity does not produce financial statements available for public use.

43. RESERVES

	2020 RMB	2021 RMB
Capital reserve (Note (a))		
Balance as at January 1	34,503	34,263
Distribution to sellers in the business combination of entities under common control (Note 35)	(972)	(6,124)
Transaction with non-controlling interests	(138)	(1,396)
Others	870	319
Balance as at December 31	34,263	27,062
Share premium (Note (b))		
Balance as at January 1	55,850	55,850
Balance as at December 31	55,850	55,850
Statutory surplus reserve (Note (c))		
Balance as at January 1	90,423	92,280
Appropriation	1,857	3,944
Balance as at December 31	92,280	96,224
Discretionary surplus reserve		
Balance as at January 1	117,000	117,000
Balance as at December 31	117,000	117,000
Other reserves		
Balance as at January 1	1,941	3,500
Other comprehensive income	1,406	17,574
Amounts transferred to initial carrying amount of hedged items	(47)	(19,302)
Others	200	723
Balance as at December 31	3,500	2,495
Retained earnings (Note (d))		
Balance as at January 1	322,931	322,361
Net income attributable to owners of the Company	33,431	71,975
Final dividend inspect of the previous year, approved and paid during the year (Note (e))	(23,004)	(15,739)
Interim dividend (Note (f))	(8,475)	(19,371)
Appropriation	(1,857)	(3,944)
Others	(665)	(802)
Balance as at December 31	322,361	354,480
	625,254	653,111

Notes:

- 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 (Note 1), and (ii) the difference between the considerations paid over or received the amount of the net assets of entities and related operations acquired from or sold to Sinopec Group Company and non-controlling interests.
- The application of the share premium account is governed by Sections 167 and 168 of the PRC Company Law.
- According to the PRC Company Law and the Articles of Association of the Company, the Company is required to transfer 10% of its net income determined in accordance with the accounting policies complying with Accounting Standards for Business Enterprises (“CASs”), adopted by the Group to statutory surplus reserve. In the event that the reserve balance reaches 50% of the registered capital, no transfer is required. 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 issuing 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, 2019, 2020 and 2021, the Company transferred RMB 3,745, RMB 1,857 and RMB 3,944 respectively, being 10% of the net income determined in accordance with the accounting policies complying with CASs.

43. RESERVES *(Continued)*

Notes: *(Continued)*

The usage of the discretionary surplus reserve is similar to that of statutory surplus reserve.

- (d) As at December 31, 2020 and 2021, the amount of retained earnings available for distribution was RMB 115,849 and RMB 116,440, respectively, being the amount determined in accordance with CASs. According to the Articles of Association of the Company, 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 CASs 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 25, 2022, final dividends in respect of the year ended December 31, 2021 of RMB 0.31 per share totaling RMB 37,532 were proposed for shareholders' approval at the Annual General Meeting. Final cash dividend for the year ended December 31, 2021 proposed after the date of the statement of financial position has not been recognized as a liability at the date of the statement of financial position.

- (e) Pursuant to the shareholders' approval at the Annual General Meeting on May 19, 2020, a final dividend of RMB 0.19 per share totaling RMB 23,004 according to total shares as at June 9, 2020 was approved. All dividends have been paid in the year ended December 31, 2020.

Pursuant to the shareholders' approval at the Annual General Meeting on May 25, 2021, a final dividend of RMB 0.13 per share totaling RMB 15,739 according to total shares as at June 16, 2021 was approved. All dividends have been paid in the year ended December 31, 2021.

- (f) Pursuant to the shareholders' approval at the General Meeting on September 28, 2020, the interim dividends for the year ended December 31, 2020 of RMB 0.07 per share totaling RMB 8,475 were approved. Dividends were paid on October 23, 2020.

Pursuant to the Company's Articles of Association and a resolution passed at the Directors' meeting on August 27, 2021, the directors authorized to declare the interim dividends for the year ended December 31, 2021 of RMB 0.16 per share totaling RMB 19,371. Dividends were paid on September 17, 2021.

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED)**
(All currency amounts in million)

In accordance with “Accounting Standards Codification (ASC) Topic 932 Extractive Activities - Oil and Gas”, issued by the Financial Accounting Standards Board of the United States, “Rule 4-10 of Regulation S-X”, issued by Securities and Exchange Commission (SEC), and in accordance with “Industrial Information Disclosure Guidelines for Public Company - No.8 Oil and Gas Exploitation”, issued by Shanghai Stock Exchange, this section provides supplemental information on oil and gas exploration and producing activities of the Group and its equity method investments at December 31, 2019, 2020 and 2021, 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 operation 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,								
	2019			2020			2021		
	RMB	Other		RMB	Other		RMB	Other	
	Total	China	countries	Total	China	countries	Total	China	countries
The Group									
Property cost, wells and related equipments and facilities	727,552	684,246	43,306	757,592	716,683	40,909	793,045	752,352	40,693
Supporting equipments and facilities	202,208	202,192	16	184,638	184,621	17	188,766	188,742	24
Uncompleted wells, equipments and facilities	46,712	46,526	186	37,445	37,439	6	43,349	43,236	113
Total capitalized costs	976,472	932,964	43,508	979,675	938,743	40,932	1,025,160	984,330	40,830
Accumulated depreciation, depletion, amortization and impairment losses	(702,392)	(661,177)	(41,215)	(742,195)	(702,829)	(39,366)	(787,623)	(748,705)	(38,918)
Net capitalized costs	274,080	271,787	2,293	237,480	235,914	1,566	237,537	235,625	1,912
Equity method investments									
Share of net capitalized costs of associates and joint ventures	5,743	—	5,743	5,843	—	5,843	3,521	—	3,521
Total of the Group’s and its equity method investments’ net capitalized costs	279,823	271,787	8,036	243,323	235,914	7,409	241,058	235,625	5,433

Table II: Costs incurred in oil and gas exploration and development

	Years ended December 31,								
	2019			2020			2021		
	RMB	Other		RMB	Other		RMB	Other	
	Total	China	countries	Total	China	countries	Total	China	countries
The Group									
Exploration	16,295	16,295	—	16,752	16,752	—	21,762	21,762	—
Development	37,412	37,245	167	38,241	37,636	605	46,147	45,590	557
Total costs incurred	53,707	53,540	167	54,993	54,388	605	67,909	67,352	557
Equity method investments									
Share of costs of exploration and development of associates and joint ventures	747	—	747	100	—	100	442	—	442
Total of the Group’s and its equity method investments’ exploration and development costs	54,454	53,540	914	55,093	54,388	705	68,351	67,352	999

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED) (Continued)**
(All currency amounts in million)

Table III: Results of operations related to oil and gas producing activities

	Years ended December 31,								
	2019			2020			2021		
	RMB			RMB			RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
The Group									
Revenues									
Sales	59,552	59,262	290	52,354	52,354	—	72,953	72,953	—
Transfers	83,633	80,641	2,992	58,069	56,052	2,017	86,650	84,484	2,166
	143,185	139,903	3,282	110,423	108,406	2,017	159,603	157,437	2,166
Production costs excluding taxes	(47,969)	(46,725)	(1,244)	(44,595)	(43,487)	(1,108)	(49,649)	(48,674)	(975)
Exploration expenses	(10,510)	(10,510)	—	(9,716)	(9,716)	—	(12,382)	(12,382)	—
Depreciation, depletion, amortization and impairment losses	(48,630)	(47,580)	(1,050)	(52,608)	(51,754)	(854)	(54,104)	(53,644)	(460)
Taxes other than income tax	(9,395)	(9,395)	—	(7,379)	(7,379)	—	(11,249)	(11,249)	—
Earnings before taxation	26,681	25,693	988	(3,875)	(3,930)	55	32,219	31,488	731
Income tax expense	338	—	338	188	—	188	(8,225)	(7,872)	(353)
Results of operation from producing activities	27,019	25,693	1,326	(3,687)	(3,930)	243	23,994	23,616	378
Equity method investments									
Revenues									
Sales	9,325	—	9,325	4,913	—	4,913	8,812	—	8,812
	9,325	—	9,325	4,913	—	4,913	8,812	—	8,812
Production costs excluding taxes	(2,516)	—	(2,516)	(998)	—	(998)	(2,246)	—	(2,246)
Exploration expenses	—	—	—	—	—	—	—	—	—
Depreciation, depletion, amortization and impairment losses	(1,124)	—	(1,124)	(940)	—	(940)	(533)	—	(533)
Taxes other than income tax	(4,068)	—	(4,068)	(1,930)	—	(1,930)	(4,391)	—	(4,391)
Earnings before taxation	1,617	—	1,617	1,045	—	1,045	1,642	—	1,642
Income tax expense	(486)	—	(486)	(303)	—	(303)	(355)	—	(355)
Share of net income for producing activities of associates and joint ventures	1,131	—	1,131	742	—	742	1,287	—	1,287
Total of the Group's and its equity method investments' results of operations for producing activities	28,150	25,693	2,457	(2,945)	(3,930)	985	25,281	23,616	1,665

The results of operations for producing activities for the years ended December 31, 2019, 2020 and 2021 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.

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED) *(Continued)***
(All currency amounts in million)

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, 2019, 2020 and 2021 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.

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED) (Continued)**
(All currency amounts in million)

“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.

	Years ended December 31,								
	2019 (Revised) ^{Note 1}			2020 (Revised) ^{Note 1}			2021		
	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	1,367	1,339	28	1,450	1,433	17	1,252	1,232	20
Revisions of previous estimates	102	106	(4)	(161)	(163)	2	209	200	9
Improved recovery	139	139	—	100	100	—	126	126	—
Extensions and discoveries	98	98	—	119	111	8	101	101	—
Production	(256)	(249)	(7)	(256)	(249)	(7)	(248)	(243)	(5)
End of year	1,450	1,433	17	1,252	1,232	20	1,440	1,416	24
Non-controlling interest in proved developed and undeveloped reserves at the end of year									
	8	—	8	5	—	5	8	—	8
Proved developed reserves									
Beginning of year	1,271	1,244	27	1,343	1,326	17	1,145	1,130	15
End of year	1,343	1,326	17	1,145	1,130	15	1,315	1,291	24
Proved undeveloped reserves									
Beginning of year	96	95	1	107	107	—	107	102	5
End of year	107	107	—	107	102	5	125	125	—
Proved developed and undeveloped reserves									
(gas) (billion cubic feet)									
Beginning of year	6,793	6,793	—	7,216	7,216	—	8,181	8,181	—
Revisions of previous estimates	555	555	—	831	831	—	662	662	—
Improved recovery	37	37	—	32	32	—	36	36	—
Extensions and discoveries	875	875	—	1,171	1,171	—	678	678	—
Production	(1,044)	(1,044)	—	(1,069)	(1,069)	—	(1,108)	(1,108)	—
End of year	7,216	7,216	—	8,181	8,181	—	8,449	8,449	—
Proved developed reserves									
Beginning of year	5,822	5,822	—	6,026	6,026	—	6,357	6,357	—
End of year	6,026	6,026	—	6,357	6,357	—	6,734	6,734	—
Proved undeveloped reserves									
Beginning of year	971	971	—	1,190	1,190	—	1,824	1,824	—
End of year	1,190	1,190	—	1,824	1,824	—	1,715	1,715	—

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED) (Continued)**
(All currency amounts in million)

Table IV: Reserve quantities information (Continued)

	Years ended December 31,								
	2019 (Revised) ^{Note 1}			2020 (Revised) ^{Note 1}			2021		
	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	299	—	299	290	—	290	290	—	290
Revisions of previous estimates	(6)	—	(6)	12	—	12	33	—	33
Improved recovery	—	—	—	—	—	—	1	—	1
Extensions and discoveries	25	—	25	12	—	12	10	—	10
Production	(28)	—	(28)	(24)	—	(24)	(25)	—	(25)
End of year	290	—	290	290	—	290	309	—	309
Proved developed reserves									
Beginning of year	261	—	261	245	—	245	244	—	244
End of year	245	—	245	244	—	244	263	—	263
Proved undeveloped reserves									
Beginning of year	38	—	38	45	—	45	46	—	46
End of year	45	—	45	46	—	46	46	—	46
Proved developed and undeveloped reserves of associates and joint ventures (gas) (billion cubic feet)									
Beginning of year	13	—	13	9	—	9	10	—	10
Revisions of previous estimates	(1)	—	(1)	4	—	4	1	—	1
Improved recovery	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	—	—
Production	(3)	—	(3)	(3)	—	(3)	(4)	—	(4)
End of year	9	—	9	10	—	10	7	—	7
Proved developed reserves									
Beginning of year	13	—	13	9	—	9	8	—	8
End of year	9	—	9	8	—	8	6	—	6
Proved undeveloped reserves									
Beginning of year	—	—	—	—	—	—	2	—	2
End of year	—	—	—	2	—	2	1	—	1
Total of the Group and its equity method investments									
Proved developed and undeveloped reserves (oil) (million barrels)									
Beginning of year	1,666	1,339	327	1,740	1,433	307	1,542	1,232	310
End of year	1,740	1,433	307	1,542	1,232	310	1,749	1,416	333
Proved developed and undeveloped reserves (gas) (billion cubic feet)									
Beginning of year	6,806	6,793	13	7,225	7,216	9	8,191	8,181	10
End of year	7,225	7,216	9	8,191	8,181	10	8,456	8,449	7

Note 1: The Company has revised some classifications for the years ended December 31, 2019 and 2020.

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED) (Continued)**
(All currency amounts in million)

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 “ASC Topic 932 Extractive Activities - Oil and Gas”, “SEC Rule 4-10 of Regulation S-X”, and “Industrial Information Disclosure Guidelines for Public Company - No.8 Oil and Gas Exploitation”. Estimated future cash inflows from production are computed by applying the average, first-day-of-the-month price adjusted for differential 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, 2019, 2020 and 2021 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.

	Years ended December 31,								
	2019 (Restated) ^{Note 1}			2020 (Restated) ^{Note 1}			2021		
	RMB			RMB			RMB		
	Total	China	Other countries	Total	China	Other countries	Total	China	Other countries
The Group									
Future cash flows	869,402	856,037	13,365	595,159	589,659	5,500	941,015	930,302	10,713
Future production costs	(384,417)	(377,692)	(6,725)	(275,409)	(271,824)	(3,585)	(413,006)	(407,903)	(5,103)
Future development costs	(83,253)	(78,404)	(4,849)	(80,785)	(77,659)	(3,126)	(79,562)	(77,687)	(1,875)
Future income tax expenses	(40,720)	(39,634)	(1,086)	(11,758)	(10,521)	(1,237)	(113,598)	(111,178)	(2,420)
Undiscounted future net cash flows	361,012	360,307	705	227,207	229,655	(2,448)⁽²⁾	334,849	333,534	1,315
10% annual discount for estimated timing of cash flows	(86,635)	(86,607)	(28)	(54,158)	(52,706)	(1,452)	(93,354)	(93,164)	(190)
Standardized measure of discounted future net cash flows	274,377	273,700	677	173,049	176,949	(3,900)	241,495	240,370	1,125
Discounted future net cash flows attributable to non-controlling interests	305	—	305	(1,284)	—	(1,284)	370	—	370
Equity method investments									
Future cash flows	41,796	—	41,796	31,259	—	31,259	49,217	—	49,217
Future production costs	(13,141)	—	(13,141)	(13,050)	—	(13,050)	(18,026)	—	(18,026)
Future development costs	(5,603)	—	(5,603)	(5,712)	—	(5,712)	(6,328)	—	(6,328)
Future income tax expenses	(3,995)	—	(3,995)	(1,740)	—	(1,740)	(4,513)	—	(4,513)
Undiscounted future net cash flows	19,057	—	19,057	10,757	—	10,757	20,350	—	20,350
10% annual discount for estimated timing of cash flows	(8,852)	—	(8,852)	(4,828)	—	(4,828)	(10,201)	—	(10,201)
Standardized measure of discounted future net cash flows	10,205	—	10,205	5,929	—	5,929	10,149	—	10,149
Total of the Group’s and its equity method investments’ results of standardized measure of discounted future net cash flows	284,582	273,700	10,882	178,978	176,949	2,029	251,644	240,370	11,274

Note 1: Pursuant to Amendments to the XBRL Taxonomy, Accounting Standards Update No. 2010-03 Extractive Activities-Oil and Gas (Topic 932), the Company has restated the future development cost attributable to China for the years ended December 31, 2019 and 2020 in Table V and Table VI to include future cash flows related to the settlement of asset retirement obligations.

Note 2: The reason of the Group’s negative undiscounted future net cash flows attributable to the Other Countries for the year ended December 31, 2020 is that the Company has included the net asset retirement costs in the calculation of standardized measure for the Other Countries.

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED) (Continued)**
(All currency amounts in million)

Table V: Standardized measure of discounted future net cash flows(Continued)

	Years ended December 31,					
	2019			2020		
	RMB			RMB		
	As Previous Reported	Change	As Restated	As Previous Reported	Change	As Restated
China						
Future cash flows	856,037		856,037	589,659		589,659
Future production costs	(377,692)		(377,692)	(271,824)		(271,824)
Future development costs	(22,216)	(56,188)	(78,404)	(23,902)	(53,757)	(77,659)
Future income tax expenses	(39,634)	—	(39,634)	(10,521)	—	(10,521)
Undiscounted future net cash flows	416,495	(56,188)	360,307	283,412	(53,757)	229,655
10% annual discount for estimated timing of cash flows	(126,175)	39,568	(86,607)	(86,127)	33,421	(52,706)
Standardized measure of discounted future net cash flows	290,320	(16,620)	273,700	197,285	(20,336)	176,949
The Group						
Future cash flows	869,402		869,402	595,159		595,159
Future production costs	(384,417)		(384,417)	(275,409)		(275,409)
Future development costs	(27,065)	(56,188)	(83,253)	(27,028)	(53,757)	(80,785)
Future income tax expenses	(40,720)	—	(40,720)	(11,758)	—	(11,758)
Undiscounted future net cash flows	417,200	(56,188)	361,012	280,964	(53,757)	227,207
10% annual discount for estimated timing of cash flows	(126,203)	39,568	(86,635)	(87,579)	33,421	(54,158)
Standardized measure of discounted future net cash flows	290,997	(16,620)	274,377	193,385	(20,336)	173,049

**SUPPLEMENTAL INFORMATION ON OIL AND GAS
PRODUCING ACTIVITIES (UNAUDITED) (Continued)**
(All currency amounts in million)

Table VI: Changes in the standardized measure of discounted cash flows

	Years ended December 31,		
	2019 (Revised) ^{Note 1}	2020 (Revised) ^{Note 1}	2021
	RMB	RMB	RMB
The Group			
Sales and transfers of oil and gas produced, net of production costs	(85,821)	(58,449)	(98,705)
Net changes in prices and production costs	(25,442)	(122,641)	135,697
Net changes in estimated future development cost	(10,568)	(11,628)	(7,413)
Net changes due to extensions, discoveries and improved recoveries	49,605	35,292	46,425
Revisions of previous quantity estimates	24,855	(1,901)	42,637
Previously estimated development costs incurred during the year	9,737	6,684	5,475
Accretion of discount	32,407	31,940	16,448
Net changes in income taxes	1,547	19,375	(72,118)
Net changes for the year	(3,680)	(101,328)	68,446
Equity method investments			
Sales and transfers of oil and gas produced, net of production costs	(2,741)	(1,984)	(2,174)
Net changes in prices and production costs	(2,804)	(5,190)	4,967
Net changes in estimated future development cost	(881)	(299)	(752)
Net changes due to extensions, discoveries and improved recoveries	1,215	403	503
Revisions of previous quantity estimates	(317)	403	1,659
Previously estimated development costs incurred during the year	355	232	287
Accretion of discount	1,438	979	1,022
Net changes in income taxes	701	1,180	(1,292)
Net changes for the year	(3,034)	(4,276)	4,220
Total of the Group's and its equity method investments' results of net changes for the year	(6,714)	(105,604)	72,666

Note 1: As revised for the years ended December 31, 2019 and 2020 due to the change shown in Table IV and Table V.

**Articles of Association
of
China Petroleum & Chemical Corporation
Revised at the First Extraordinary General Meeting
for the Year 2021 on 20 October 2021**

CHAPTER 1 GENERAL PROVISIONS

Article 1 These Articles of Association are drawn up in accordance with the “Company Law of the People’s Republic of China” (the “Company Law”), the “Securities Law of the People's Republic of China” (“Securities Law”), “Special regulations of the State Council regarding the issue of shares overseas and the listing of shares overseas by companies limited by share” (the “Special Regulations”), “Mandatory provisions for the Articles of Association of the Company to be Listed Overseas” (“Mandatory Provisions”), “Guidelines for Articles of Association of Listed Companies” (“Guidelines on Articles”), “Standards for the Governance of Listed Companies” and other relevant laws and regulations to maintain the legitimate interests of China Petroleum & Chemical Corporation (the “Company”) and its shareholders and creditors, and to regulate the organization and conducts of the Company.

Article 2 These Articles of Association and its appendices of the Company are effective on the date of incorporation of the Company.

From the date on which the Articles of Association and its appendices come into effect, the Articles of Association and its appendices shall constitute a legally binding document regulating the Company’s organization and activities, and the rights and obligations between the Company and its shareholders and among the shareholders inter se.

Article 3 These Articles of Association and its appendices are binding on the Company, its shareholders, directors, supervisors and senior management personnel; all of whom are entitled, according to these Articles of Association and its appendices, to make claims concerning the affairs of the Company.

A shareholder may take action against the Company and the Company may take action against a shareholder a director, a supervisor, and a senior management personnel pursuant to these Articles of Association and i appendices. A shareholder may also take action against another shareholder or directors, supervisors, and seni management personnel of the Company pursuant to these Articles of Association and its appendices.

The actions referred to in the preceding paragraph include court proceedings and arbitration proceedings.

Unless otherwise defined in the contexts, senior management personnel referred to in the Articles of Associatio and its appendices refers to the president, senior vice-president, chief financial officer, vice president, t secretary to the Board and any other person designated by the Company.

Article 4 The Company is a joint stock limited company established in accordance with the Company Law, the Special Regulations and other relevant laws and administrative regulations of the State.

The Company was established by way of promotion with the approval of the State Economic and Trade Commission of the People’s Republic of China (“PRC”), as evidenced by approval document "Approval in relation to the Agreement to Establish China Petroleum and Chemical Corporation" (Guo Jing Mao Qi Gai [2000] No. [154]). It is registered with and has obtained a business license from China’s State Administration Bureau of Industry and Commerce on 25 February 2000 in the People's Republic of China (The "China", for the purpose of this Articles of Association and its appendices, excluding Hong Kong Special Administrative Region, Macau Special Administrative Region and Taiwan). The Company’s business license number is: 100000000032985.

The promoter of the Company is: China Petrochemical Corporation.

Article 5 The registered name of the Company:

In Chinese: 中国石油化工股份有限公司

Abbreviation: “中國石化”

In English: China Petroleum & Chemical Corporation

- Abbreviation: SINOPEC Corp.
- Article 6** The address of the Company: 22 Chaoyangmen North Street, Chaoyang District, Beijing, China.
- Zip: 100728
- Tel: (86-10) 59969999
- Fax: (86-10) 59760111
- Website: WWW.SINOPEC.COM.CN
- Article 7** The Company's legal representative is the Chairman of the board of directors of the Company.
- Article 8** The Company is a joint stock limited company which has perpetual existence.
- The capital of the Company is divided into shares of equal value. The rights and responsibilities of the Company's shareholders shall only be limited to the proportion of the shares as held by them; the Company shall be responsible for the Company's debts by all of its assets.
- The Company is an independent legal person, subject to the jurisdiction and under the protection of the laws and administrative rules of the PRC.
- Article 9** In accordance with the Company Law and the Constitution of the Communist Party of China (the "Party"), the Company hereby set up Party organizations and related working organs, and maintain an adequate level of staffing to handle Party affairs as well as sufficient funding necessary for the activities of the Party organizations. The Party organizations play the role of the leadership core and political core in the Company.
- Article 10** The Company may set up wholly-owned or holding branch organizations such as subsidiaries, branches, representative offices and offices according to its business development needs. The wholly-owned or holding subsidiary may be named with China Petroleum & Chemical Corporation's abbreviation "SINOPEC". The branches, representative offices and offices are non-legal person branch organizations and shall be named with the full name of China Petroleum & Chemical Corporation.
- The Company may set up branch organizations (whether or not wholly-owned) outside the PRC and in the Hong Kong SAR, Macau SAR and Taiwan according to its business development needs and upon the approval of the relevant government body.
- Article 11** The Company may invest in other limited liability companies or joint stock limited companies. The Company's liabilities to an invested company shall be limited to the amount of its capital contribution to the invested company.
- The Company may invest in other enterprises. However, unless it is otherwise provided for by any law, it shall not become a capital contributor that shall bear several and joint liabilities for the debts of the enterprises in which it invests.

CHAPTER 2 THE COMPANY'S OBJECTIVES AND SCOPE OF BUSINESS

- Article 12** The operation objectives of the Company are: to develop the enterprise, return to shareholders, contribute to the society, and benefit the employees.
- Article 13** The Company's scope of business shall be consistent with and subject to the scope of business approved by the authority responsible for the registration of the Company.

The Company's scope of business includes: 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, sale 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; manufacturing of equipment, tools, instruments and gauges in petroleum drilling and production; 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 sale 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; manufacturing of food and food additives; residents' services; transportation agency services; warehousing; operation of self-owned properties; leasing of natural gas storage facility; leasing of houses, working places, vehicles and equipment; 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 labour required for the aforementioned overseas projects; railway transportation; auxiliary operations for coastal engineering, port operations, oil spill emergency response, security protection, vessel pollution cleaning operations; quality inspection technical services in professional technical service industry, environment and ecology monitoring and testing services; edible salt production, wholesale, retail; exploration and development of shale gas, coalbed methane, shale oil, natural gas hydrate and other resources, storage and shipment, pipeline transportation and sale; gas-fired power generation and power supply; installation and maintenance of power facilities, power technology development and services. Hydrogen energy businesses and related services such as production, storage, transportation and sales of hydrogen; manufacturing and sales of equipment for hydrogen production, refuelling and storage. Power businesses and related services such as power supply; motor vehicle charging; operation of new energy power generation facilities such as solar power generation and wind power generation facilities, as well as new energy vehicle charging facilities; battery sales; battery swapping for new energy vehicle.

CHAPTER 3 SHARES AND REGISTERED CAPITAL

- Article 14** There must, at all times, be ordinary shares in the Company, which include the "domestic-invested shares" and the "foreign-invested shares". Subject to the approval of the companies approving department authorized by the State Council, the Company may, according to its requirements, create different classes of shares.
- Article 15** The shares issued by the Company shall each have a par value of Renminbi one yuan. "Renminbi" as mentioned above means the legal currency of the PRC.
- Article 16** Shares of the Company are in the form of share certificates. Subject to the approval of the securities authority of the State Council, the Company may issue shares to Domestic Investors and Foreign Investors. The issue of shares by the Company shall adhere to the principle of openness and fairness. The shares of the same class shall have the same rights and benefits. The stocks issued at the same time shall be equal in price and shall be subject to the same conditions. The price of each share purchased by any organization or individual shall be the same.

“Foreign Investors” means those investors who subscribe for the Company’s shares and who are located in foreign countries and in the regions of Hong Kong, Macau and Taiwan. “Domestic Investors” means those investors who subscribe for the Company’s shares and who are located within the territory of the PRC (except the areas referred to above).

Article 17 Shares which the Company issues to domestic investors for subscription in Renminbi are called “Domestic-Invested Shares”. Domestic-invested shares listed domestically are called “Domestic-Listed Domestic-Invested shares”, known as “A shares”.

Shares which the Company issues to foreign investors for subscription in foreign currencies are called “Foreign-Invested Shares”. Foreign-invested shares which are listed overseas are called “Overseas-Listed Foreign-Invested Shares”.

“Foreign currencies” means the legal currencies of countries or districts outside the PRC which are recognized by the foreign exchange authority of the State and which can be used to pay the share price to the Company.

The shareholders of “A Shares” and the shareholders of “Overseas-Listed Foreign-Invested Shares” shall be shareholders of ordinary shares, possessing the same rights and undertaking the same obligations.

Article 18 Foreign-Invested Shares issued by the Company and which are listed in Hong Kong shall be referred to as “H Shares”. “H Shares” means the shares which have been admitted for listing on The Stock Exchange of Hong Kong Limited (the “Stock Exchange”), the par value of which is denominated in Renminbi and which are subscribed for and traded in Hong Kong dollars.

Article 19 The Company’s A shares are held on trust by the Shanghai branch of the China Securities Registration and Clearing Company Limited. The Company’s H shares are mainly held by the Hong Kong Securities Clearing Company Limited.

Article 20 With the approval of the examination and approval department authorized by the State Council, the Company may issue 6,880,000 shares, all of which were issued to China Petrochemical Corporation, the promoter of the Company, representing 100% of the issued ordinary shares of the Company at that time, China Petrochemical Corporation satisfied its investment by valued assets, and such capital injection was duly made upon the establishment of the company.

Article 21 The Company, with the approval of China Securities Regulatory Commission on 24 August 2000, issued to the overseas investors 16,780,488,000 H shares (out of these, 15,102,439,000 shares are new issue shares of the Company and 1,678,049,000 shares are stock shares sold by the promoter, China Petrochemical Corporation) for the first time, and got listed in The Stock Exchange of Hong Kong Limited in October 2000; on 20 June 2001, with the approval of China Securities Regulatory Commission, the Company issued to the domestic investors 2,800,000,000 A shares for the first time and got listed at Shanghai Stock Exchange on 8 August 2001.

The existing structure of the Company’s share capital is as follows: the total number of issued ordinary shares of the Company is 121,071,209,646 shares, among which, 95,557,771,046 shares representing 78.93% of the total number of issued ordinary shares of the Company are held by the holders of domestic-listed domestic-invested A shares; and 25,513,438,600 shares representing 21.07% are held by the holder of foreign-listed foreign-invested H shares.

Article 22 The Company’s board of directors may take all necessary action for the respective issuance of the Overseas-Listed Foreign-Invested Shares and A Shares after the proposals for issuance of the same have been approved by the securities authority of the State Council.

The Company may implement its proposal to issue Overseas-Listed Foreign-Invested Shares and A Shares pursuant to the preceding paragraph within fifteen (15) months from the date of approval by the securities regulatory organ of the State Council.

Article 23 Where the total number of shares stated in the proposal for the issuance of shares include Overseas-Listed Foreign-Invested Shares and A Shares, such shares should be fully subscribed for at their respective offerings. If the shares cannot be fully subscribed for all at once due to special circumstances, the shares may, subject to the approval of the securities regulatory organ of the State Council, be issued on separate occasions.

Article 24 The registered capital of the Company is RMB 121,071,209,646.

Article 25 The Company may, based on its operating and development needs, authorize the increase of its capital pursuant to the Company's Articles of Association and its appendices.

The Company may increase its capital in the following ways:

- (1) by offering new shares for subscription by unspecified investors;
- (2) by placing new shares to its existing shareholders;
- (3) by allotting bonus shares to its existing shareholders;
- (4) to increase the share capital with common reserve fund;
- (5) by any other means which is permitted by the laws, administrative regulations and authorized by the securities regulatory authorities of the State Council.

After the Company's increase of share capital by means of the issuance of new shares has been approved in accordance with the provisions of the Articles of Association and its appendices, the issuance thereof should be made in accordance with the procedures set out in the relevant laws and administrative regulations of the State.

Article 26 Unless otherwise stipulated in the relevant laws or administrative regulations, shares in the Company shall be freely transferable and are not subject to any lien.

CHAPTER 4 REDUCTION OF CAPITAL AND REPURCHASE OF SHARES

Article 27 According to the provisions of the Articles of Association and its appendices, the Company may reduce its registered capital. In so doing, it shall act according to the Company Law, other relevant provisions and these Articles of Association and its appendices.

Article 28 The Company must prepare a balance sheet and an inventory of assets when it reduces its registered capital.

The Company shall notify its creditors within ten (10) days of the date of the Company's resolution for reduction of capital and shall publish an announcement in the newspaper(s) designated by the relevant securities regulatory authority in the jurisdiction where the securities of the Company are listed within thirty (30) days of the date of such resolution. A creditor has the right within thirty (30) days of receipt of the notice from the Company or, in the case of a creditor who does not receive such notice, within forty-five (45) days of the date of the announcement, to require the Company to repay its debts or to provide a corresponding guarantee for such debt.

The Company's registered capital may not, after the reduction in capital, be less than the minimum amount prescribed by law.

The Company shall, in case of reducing registered capital, handle the alteration registration in the registration organs in accordance with the law.

Article 29 The Company may, in accordance with the procedures set out in the Company's Articles of Association and its appendices and with the approval of the relevant governing authority of the State, repurchase its outstanding shares under the following circumstances:

- (1) cancellation of shares for the purposes of reducing its capital;
- (2) merging with another company that holds shares in the Company;

- (3) rewarding the employees of the Company;
- (4) requested by any shareholder to purchase his shares because this shareholder objects to the Company's resolution on merger or division made by the assembly of shareholders;
- (5) other circumstances required by laws, administrative regulations and permitted by the State's competent authorities

Apart from the foregoing, the Company shall not purchase its own shares.

The Company shall repurchase its outstanding shares in accordance with the stipulations of Article 29 to Article 32.

Article 30 The Company may repurchase shares in one of the following ways, with the approval of the relevant governing authority of the State:

- (1) by making an offer for the repurchase of shares to all its shareholders on a pro rata basis;
- (2) by repurchasing shares through public dealing on a stock exchange;
- (3) by repurchasing shares outside of the stock exchange by means of an off-market agreement;
- (4) by any other means which is permitted by the State's competent authorities.

Article 31 The Company must obtain the prior approval of the shareholders in a general meeting in the manner stipulated in the Company's Articles of Association and its appendices before it can repurchase shares outside the stock exchange by means of an off-market agreement. The Company may, by obtaining the prior approval of the shareholders in a general meeting (in the same manner), rescind or vary any contract which has been so entered into or waive any right thereof.

A contract for the repurchase of shares referred to in the preceding paragraph includes (without limitation) an agreement to become liable to repurchase shares or an agreement to have the right to repurchase shares.

The Company may not assign any contract for the repurchase of its shares or any right contained in such contract.

Article 32 If the Company purchases shares of the Company due to reasons provided in Articles 28 (I) to (III), such purchase shall be decided by shareholders resolutions pursuant to the Articles of Association and its appendices.

Where shares of the Company are purchased in accordance with Item (I) of Article 28, it shall be canceled as of ten days upon its purchase; where shares of the Company are purchased in accordance with Item (II) or (IV), it shall be transferred or canceled within six months upon its purchase.

Shares, purchased in line with Item (III) of Article 28, shall not exceed 5% of the total stock volume of the Company; the capital used for its purchase shall come from the after-tax profit hereof; the purchased stock shall be transferred to the staff of the Company within one year.

In the event of shares cancellation, the Company shall apply to the original companies registration authority for registration of the change in its registered capital.

The aggregate par value of the cancelled shares shall be deducted from the Company's registered share capital.

Article 33 Unless the Company is in the course of liquidation, it must comply with the following provisions in relation to repurchase of its outstanding shares:

- (1) where the Company repurchases shares at par value, payment shall be made out of book surplus distributable profits of the Company or out of proceeds of a new issue of shares made for that purpose;

- (2) where the Company repurchases shares of the Company at a premium to its par value, payment up to the par value may be made out of the book surplus of distributable profits of the Company or out of the proceeds of a new issue of shares made for that purpose. Payment of the portion in excess of the par value shall be effected as follows:
 1. if the shares being repurchased were issued at par value, payment shall be made out of the book surplus of distributable profits of the Company;
 2. if the shares being repurchased were issued at a premium to its par value, payment shall be made out of the book surplus of distributable profits of the Company or out of the proceeds of a new issue of shares made for that purpose, provided that the amount paid out of the proceeds of the new issue shall not exceed the aggregate amount of premiums received by the Company on the issue of the shares repurchased nor shall it exceed the book value of the Company's capital common reserve fund account (including the premiums on the new issue) at the time of the repurchase;
- (3) the Company shall make the following payments out of the Company's distributable profits:
 1. payment for the acquisition of the right to repurchase its own shares;
 2. payment for variation of any contract for the repurchase of its shares;
 3. payment for the release of its obligation(s) under any contract for the repurchase of shares;
- (4) after the Company's registered capital has been reduced by the aggregate par value of the cancelled shares in accordance with the relevant provisions, the amount deducted from the distributable profits of the Company for payment of the par value of shares which have been repurchased shall be transferred to the Company's capital common reserve fund account.

CHAPTER 5 FINANCIAL ASSISTANCE FOR ACQUISITION OF SHARES

Article 34 The Company and its subsidiaries shall not, at any time, provide any form of financial assistance to a person who is acquiring or is proposing to acquire shares in the Company. This includes any person who directly or indirectly incurs any obligations as a result of the acquisition of shares in the Company.

The Company and its subsidiaries shall not, at any time, provide any form of financial assistance to the Obligor for the purposes of reducing or discharging the obligations assumed by such person.

This Article shall not apply to the circumstances specified in Article 35 of this Chapter.

Article 35 For the purposes of this Chapter, "financial assistance" includes (without limitation) the following:

- (1) gift;
- (2) guarantee (including the assumption of liability by the guarantor or the provision of assets by the guarantor to secure the performance of obligations by the Obligor), compensation (other than compensation in respect of the Company's own default) or release or waiver of any rights;
- (3) provision of loan or the making of any other agreement under which the obligations of the Company are to be fulfilled before the obligations of another party, or the change in parties to, or the assignment of rights under, such loan or contract;
- (4) any other form of financial assistance given by the Company when the Company is insolvent or has no net assets or when its net assets would thereby be reduced to a material extent.

For the purposes of this Chapter, "assumption of obligations" includes the assumption of obligations by way of contract or by way of arrangement (irrespective of whether such contract or arrangement is enforceable or not and irrespective of whether such obligation is to be borne solely by the Obligor or jointly with other

persons) or by any other means which results in a change in his financial position.

Article 36 The following acts shall not be deemed to be acts prohibited by Article 33 of this Chapter:

- (1) the provision of financial assistance by the Company where the financial assistance is given in good faith in the interests of the Company, and the principal purpose of which is not for the acquisition of shares in the Company, or the giving of the financial assistance is an incidental part of a master plan of the Company;
- (2) the lawful distribution of the Company's assets as dividend;
- (3) the distribution of dividends in the form of shares;
- (4) a reduction of registered capital, a repurchase of shares of the Company or a reorganization of the share holding structure of the Company effected in accordance with the Articles of Association and its appendices;
- (5) the provision of loans by the Company within its scope of business and in the ordinary course of its business, where the provision of loans falls within part of the scope of business of the Company (provided that the net assets of the Company are not thereby reduced or that, to the extent that the assets are thereby reduced, the financial assistance is provided out of distributable profits);
- (6) contributions made by the Company to the employee share ownership schemes (provided that the net assets of the Company are not thereby reduced or that, to the extent that the assets are thereby reduced, the financial assistance is provided out of distributable profits).

CHAPTER 6 SHARE CERTIFICATES AND REGISTER OF SHAREHOLDERS

Article 37 Share certificates of the Company shall be in registered form.

The shares of the Company shall bear the following main items:

- (1) Name of the Company;
- (2) Date of registration and establishment of the Company;
- (3) Type of shares, par value and the number of shares it represents;
- (4) Code of share certificates;
- (5) Other matters as required by the Company Law, Special Regulations and the stock exchange on which the shares of the Company are listed.

Article 38 The shares of the Company may be transferred, donated, inherited and pledged in accordance with the relevant laws, administrative rules, regulations of the competent department(s) as well as these Articles of Association and its appendices.

The transfer of shares shall be registered with the share registration organization appointed by the Company.

Article 39 The Company does not accept the pledging of its shares.

Article 40 Share certificates of the Company shall be signed by the Chairman of the Company's board of directors. Where the stock exchange(s) on which the Company's shares are listed require other directors and/or supervisors, and senior management personnel of the Company to sign on the share certificates, the share certificates shall also be signed by such officer(s). The share certificates shall take effect after being sealed or imprinted with the seal of the Company (or the Company chop for securities), or with the seal sign (or the

Company's specific security seal) in printed form. The share certificate shall only be sealed with the Company's seal or securities chop under the authorization of the board of directors. The signatures of the Chairman of the board of directors or other officer(s) of the Company may be printed in printed form.

Where the stock of the Company is issued and/or traded without share certificate in printed form, it shall be in accordance with the regulations of the securities regulatory and management institutions of the Company's listing place.

Article 41 The Company shall keep a register of shareholders which shall contain the following particulars:

- (1) the name (title) and address (residence), the occupation or nature of each shareholder;
- (2) the class and quantity of shares held by each shareholder;
- (3) the amount paid-up on or agreed to be paid-up on the shares held by each shareholder;
- (4) the share certificate number(s) of the shares held by each shareholder;
- (5) the date on which each person was registered as a shareholder;
- (6) the date on which any shareholder ceased to be a shareholder.

Unless there is evidence to the contrary, the register of shareholders shall be sufficient evidence of the shareholders' shareholdings in the Company.

Article 42 The Company may, in accordance with the mutual understanding and agreements made between the securities regulatory organ of the State Council and overseas securities regulatory organizations, maintain the register of shareholders of Overseas-Listed Foreign-Invested Shares overseas and appoint overseas agent(s) to manage such register of shareholders. The original register of shareholders for holders of H Shares shall be maintained in Hong Kong.

A duplicate register of shareholders for the holders of Overseas-Listed Foreign-Invested Shares shall be maintained at the Company's residence. The appointed overseas agent(s) shall ensure consistency between the original and the duplicate register of shareholders at all times.

If there is any inconsistency between the original and the duplicate register of shareholders for the holders of Overseas-Listed Foreign-Invested Shares, the original register of shareholders shall prevail.

Article 43 The Company shall have a complete register of shareholders which shall comprise the following parts:

- (1) the register of shareholders which is maintained at the Company's residence (other than those share registers which are described in sub-paragraphs (2) and (3) of this Article);
- (2) the register of shareholders in respect of the holders of Overseas-Listed Foreign-Invested Shares of the Company which is maintained in the same place as the overseas stock exchange on which the shares are listed; and
- (3) the register of shareholders which is maintained in such other place as the board of directors may consider necessary for the purposes of the listing of the Company's shares.

Article 44 Different parts of the register of shareholders shall not overlap. No transfer of any shares registered in any part of the register shall, during the continuance of that registration, be registered in any other part of the register. Amendments or rectification of the register of shareholders shall be made in accordance with the laws of the place where the register of shareholders is maintained.

All H Shares which have been fully paid-up may be freely transferred in accordance with the Articles of Association and its appendices. However, unless such transfer complies with the following requirements, the board of directors may refuse to recognize any document of transfer and would not need to provide any reason

therefor:

- (1) a fee of HK\$2.50 per instrument of transfer or such higher amount agreed by the Stock Exchange has been paid to the Company for registration of the instrument of transfer and other documents relating to or which will affect the right of ownership of the shares;
- (2) the document of transfer only relates to Overseas-Listed Foreign-Invested Shares listed in Hong Kong;
- (3) the stamp duty which is chargeable on the document of transfer has already been paid;
- (4) the relevant share certificate(s) and any other evidence which the board of directors may reasonably require to show that the transferor has the right to transfer the shares have been provided;
- (5) 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
- (6) the Company does not have any lien on the relevant shares.

All H Shares listed in Hong Kong shall be transferred by an instrument in writing in any usual or common form or any other form which the directors may approve. The instrument of transfer of any share may be executed by hand without seal, or if the assignor or the assignee is the recognized clearing house as defined in the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) ("Recognized Clearing house") or its nominee, the share transfer form may be executed by hand or in mechanically-printed form.

Article 45 No change may be made in the register of shareholders as a result of a transfer of shares within thirty (30) days prior to the date of a shareholders' general meeting or within five (5) days before the determination date for the Company's distribution of dividends. Amendments or rectification of the A share register of shareholders shall be made in accordance with the domestic laws and regulations.

Article 46 When the Company needs to convene a shareholders' meeting for the purposes of determination, dividend distribution, for liquidation or for any other purpose which need to determine shareholdings, the convenor of the board of directors or shareholders' general meeting shall determine a record date for the determination of shareholdings. The shareholders of the Company shall be such persons who appear in the register of shareholders at the close of such record date.

Article 47 Any person who disputes the register of shareholders and asks for inclusion of his name in or removal of his name from the register of shareholders may apply to a court of competent jurisdiction for rectification of the register.

Article 48 For any person who is a registered shareholder or who claims to be entitled to have his name (title) entered in the register of shareholders in respect of shares in the Company may, if his share certificate (the "original certificate") relating to the shares is lost, he may apply to the Company for a replacement share certificate in respect of such shares (the "Relevant Shares").

Application by a holder of A Shares, who has lost his share certificate, for a replacement share certificate shall be dealt with in accordance with Article 144 of the Company Law.

Application by a holder of Overseas-Listed Foreign-Invested Shares, who has lost his share certificate, for a replacement share certificate may be dealt with in accordance with the law of the place where the original register of shareholders of holders of Overseas-Listed Foreign-Invested Shares is maintained, the rules of the stock exchange or other relevant regulations.

The issue of a replacement share certificate to a holder of H Shares, who has lost his share certificate, shall comply with the following requirements:

- (1) The applicant shall submit an application to the Company in a prescribed form accompanied by a notarial certificate or a statutory declaration, of which the contents shall include the grounds upon which

the application is made and the circumstances and evidence of the loss, and the declaration showing that no other person is entitled to have his name entered in the register of shareholders in respect of the Relevant Shares.

- (2) The Company has not received any declaration made by any person other than the applicant declaring that his name shall be entered in the register of shareholders in respect of such shares before it decides to issue a replacement share certificate to the applicant.
- (3) The Company shall, if it intends to issue a replacement share certificate, publish a notice of its intention to do so at least once every thirty (30) days within a period of ninety (90) consecutive days in such newspapers as may be prescribed by the board of directors.
- (4) The Company shall, prior to publication of its intention to issue a replacement share certificate, deliver to the stock exchange on which its shares are listed, a copy of the notice to be published and may publish the notice upon receipt of confirmation from such stock exchange that the notice has been exhibited in the premises of the stock exchange. Such notice shall be exhibited in the premises of the stock exchange for a period of ninety (90) days.

In the case of an application which is made without the consent of the registered holder of the Relevant Shares, the Company shall deliver by mail to such registered shareholder a copy of the notice to be published.

- (5) If, by the expiration of the 90-day period referred to in paragraphs (3) and (4) of this Article, the Company has not received any objection from any person in respect of the issuance of the replacement share certificate, it may issue a replacement share certificate to the applicant pursuant to his application.
- (6) Where the Company issues a replacement share certificate pursuant to this Article, it shall forthwith cancel the original share certificate and document the cancellation of the original share certificate and issuance of a replacement share certificate in the register of shareholders accordingly.
- (7) All expenses relating to the cancellation of an original share certificate and the issuance of a replacement share certificate shall be borne by the applicant and the Company is entitled to refuse to take any action until reasonable guarantee is provided by the applicant therefor.

Article 49 Where the Company issues a replacement share certificate pursuant to the Articles of Association and its appendices, as for a bona fide purchaser obtaining new share certificates referred to above or a shareholder registered as a owner of the shares (in case of a bona fide purchaser), his name (title) shall not be removed from the register of shareholders.

Article 50 The Company shall not be liable for any damages sustained by any person by reason of the cancellation of the original share certificate or the issuance of the replacement share certificate unless the claimant is able to prove that the Company has acted in a deceitful manner.

CHAPTER 7 SHAREHOLDERS' RIGHTS AND OBLIGATIONS

Article 51 A shareholder of the Company is a person who lawfully holds shares in the Company and whose name (title) is entered in the register of shareholders.

A shareholder shall enjoy rights and assume obligations according to the class and amount of shares held by him; shareholders who hold shares of the same class shall enjoy the same rights and assume the same obligations.

For the joint shareholders, if one of the joint shareholders has passed away, the surviving shareholder shall be deemed by the Company to have the ownership of the related shares, but the Board of Directors is entitled to ask for the provision of the suitable death certificate for the purpose of revision of the shareholders' register. For the joint shareholders, only the first named shareholder in the shareholders' register has the right to receive the share certificates of the related shares, receive the notice of the Company, attend the shareholders' general

meeting and exercise his voting right; while, any notice delivered to the said shareholder shall be deemed as if the notice has been delivered to all of the joint shareholder of the related shares.

Article 52 The shareholders of ordinary shares of the Company shall enjoy the following rights:

- (1) the right to receive dividends and other distributions in proportion to their shareholdings;
- (2) the right to require, convene, preside, attend or appoint a proxy to attend shareholders' general meetings and to performing the relevant voting rights ;
- (3) the right to supervise the Company's business operations, the right to present proposals or to raise queries;
- (4) the right to transfer, donate and pledge shares in accordance with laws, administrative regulations and provisions of the Articles of Association and its appendices ;
- (5) subject to production of the relevant proofs of the type and quantity of shares that they are holding to the Company and verification of their identities of shareholders by the Company, the right to obtain relevant information in accordance with laws, administrative regulations and provisions of these Articles of Association and its appendices , in which information includes:
 - i. the right to obtain a copy of the Articles of Association and its appendices , subject to payment of costs;
 - ii. the right to inspect and copy, subject to payment of a reasonable fee:
 - (i) all parts of the register of shareholders;
 - (ii) personal particulars of each of the Company's directors, supervisors, senior management personnel including:
 - (a) present and former name and alias;
 - (b) principal address (place of residence);
 - (c) nationality;
 - (d) primary and all other part-time occupations and duties;
 - (e) identification documents and the numbers thereof;
 - (iii) report on the state of the Company's share capital;
 - (iv) counterfoil of the Company's debenture;
 - (v) reports showing the aggregate par value, quantity, highest and lowest price paid in respect of each class of shares repurchased by the Company since the last accounting year and the aggregate amount paid by the Company for this purpose;
 - (vi) minutes of shareholders' general meetings, resolutions of the directors meetings and supervisors meetings, and financial statements;
- (6) in the event of the termination or liquidation of the Company, the right to participate in the distribution of remaining assets of the Company in accordance with the number of shares held;
- (7) the right to demand the Company to withdraw the shares of the shareholder who raise an objection to

the merger and division resolution made in the shareholders' meeting;

- (8) in the event that the resolution of a shareholders' general meeting or board meeting is against the law or administrative rules and has infringed the legitimate interest of a shareholder, the shareholder shall have the right to commence legal proceedings to stop the illegal or infringing act and to ask the Company to bring a claim for compensation
- (9) other rights conferred by laws, administrative regulations and the Articles of Association and its appendices .

Article 53 The shareholders of ordinary shares of the Company shall assume the following obligations:

- (1) to comply with these Articles of Association and its appendices ;
- (2) to pay subscription money according to the number of shares subscribed and the method of subscription;
- (3) not to retire from being a shareholder unless required by law or administrative regulations;
- (4) not to abuse the shareholder's right to infringe the interest of the Company or other shareholders; not to abuse the independent position of the legal person and the limited liability of the shareholder of the Company to impair the interest of the creditor of the Company; where the shareholder's abuse of its power has caused damage to other shareholders, it shall honor its compensation obligations in accordance with the law; where the shareholder's abuse of its independent position and shareholder's limited liability and evasion of its debt have caused serious damage to the creditor's interest, it shall bear joint liability upon the debt of the company.
- (5) other obligations imposed by laws, administrative regulations and the Articles of Association and its appendices

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.

Article 54 In addition to the obligations imposed by laws and administrative regulations or required by the listing rules of the stock exchange on which the Company's shares are listed, a controlling shareholder shall not exercise his voting rights in respect of the following matters in a manner prejudicial to the interests of all or part of the shareholders of the Company:

- (1) act honestly in the best interests of the Company in removing a director or supervisor;
- (2) to approve the expropriation by a director or supervisor (for his own benefit or for the benefit of another person) of the Company's assets in any way, including (without limitation to) opportunities which are beneficial to the Company;
- (3) to approve the expropriation by a director or supervisor (for his own benefit or for the benefit of another person) of the individual interest of other shareholders, including (but without limitation to) rights to distributions and voting rights (excluding a restructuring which has been submitted for approval by the shareholders in a general meeting in accordance with the Articles of Association and its appendices).

Article 55 For the purpose of the foregoing Article, a "controlling shareholder" means a person who satisfies any one of the following conditions:

- (1) a person who, acting alone or in concert with others, has the power to elect more than half of the board of directors;
- (2) a person who, acting alone or in concert with others, has the power to exercise 30% or more or has power to control the exercise of 30% or more of the voting rights in the Company;
- (3) a person who, acting alone or in concert with others, holds 30% or more of the issued and outstanding

shares of the Company;

- (4) a person who, acting alone or in concert with others, has de facto control of the Company in any other way.

Article 56 The controlling shareholders, the actual shareholding controllers, directors, supervisors and senior management personnel shall not abuse their correlative relationship to cause damage to the Company. Where they cause damage to the Company due to breach of rules, they shall bear their compensation obligations.

The controlling shareholders and the actual shareholding controllers shall act faithfully and assume responsibility to the company and other public shareholders. The controlling shareholders shall fulfil strictly the rights of subscriber and buyer in accordance with the laws, shall not impair lawful rights of the Company and other public shareholders by such means as interest distribution, capital reorganization, foreign investment, occupation of funds, loan guarantee, and shall not utilize its controlling position to cause damage to the interest of the Company and other public shareholders.

An "actual controller" refers to anyone who is not a shareholder but is able to hold actual control of the acts of the Company by means of investment relations, agreements or any other arrangements.

"Connection relationship" refers to the relationship between the controlling shareholders, actual controllers, directors, supervisors, or senior management personnel of the Company and the enterprise directly or indirectly controlled thereby and any other relationship that may lead to the transfer of any interest of the Company. However, the enterprises controlled by the state do not incur a connection relationship simply because their shares are controlled by the state.

CHAPTER 8 SHAREHOLDERS' GENERAL MEETINGS

Article 57 The shareholders' general meeting is the organ of authority of the Company and shall exercise its functions and powers in accordance with law.

The Company shall formulate "Rules and Procedures for the Shareholders' General Meetings" for implementation after being approved by the shareholders in a general meeting. The Rules and Procedures for the Shareholders' General Meetings shall include the followings:

- (1) functions and powers of the shareholders general meetings;
- (2) authorities given by the shareholders' general meetings to the board of directors;
- (3) procedures for the convening of a shareholders' general meeting, which include the putting forward and collection of motions, and notices of meetings and any change thereto, registration of the meeting, convening of, voting and resolutions made in the meeting, adjournments, past-session matters and announcements, etc.;
- (4) other matters deemed necessary by the shareholders' general meeting.

The Rules and Procedures for the Shareholders' General Meetings is an integral part of and has the same legal effect as these Articles of Association and its appendices, to be decided by the Board of Directors and approved at the Shareholders General Meetings.

Article 58 The shareholders' general meeting shall have the following functions and powers:

- (1) to decide on the Company's operational policies and investment plans;
- (2) to elect and replace directors and to decide on matters relating to the remuneration of directors;
- (3) to elect and replace supervisors assumed by non-representatives of the employees and to decide on

matters relating to the remuneration of supervisors;

- (4) to examine and approve the board of directors' reports;
- (5) to examine and approve the supervisory committee's reports;
- (6) to examine and approve the Company's profit distribution plans and loss recovery plans;
- (7) to examine and approve the Company's proposed annual preliminary and final financial budgets;
- (8) to pass resolutions on the increase or reduction of the Company's registered capital;
- (9) to pass resolutions on matters such as merger, division, dissolution, liquidation or change of the corporate form of the Company;
- (10) to pass resolutions on the issue of debentures by the Company;
- (11) to pass resolutions on the appointment, dismissal and non-reappointment of the accountants of the Company;
- (12) to amend the Articles of Association and its appendices and its appendices (including the Rules and Procedures for the Shareholders' General Meetings, Rules and Procedures for the Board of Directors' Meetings and Rules and Procedures for the Supervisors' Meetings);
- (13) to consider motions raised by the supervisory committee or shareholders who represent 3% or more of the total number of voting shares of the Company;
- (14) to examine and approve the guarantee particulars prescribed in Article 58;
- (15) to examine such proceedings as the purchased and sold assets in one year by the Company exceed 30% of the audited total assets of the Company of the latest term;
- (16) to examine, approve and alter the proceedings for the usage of the collected fund;
- (17) to examine stock-based incentive plan; and
- (18) to decide on other matters which, according to laws, administrative regulations, regulations of the competent department(s) or the Articles of Association and its appendices, need to be approved by shareholders in general meetings;

Article 59 The below external guarantee acts shall be approved by the shareholders' general meeting.

- (1) any guarantee after the total external guarantee volume of the Company and its controlling subsidiaries reaches or exceeds 50% of the latest audited net assets of the latest term;
- (2) any guarantee after the total external guarantee volume of the Company reaches or exceeds 30% of the latest audited net assets of the latest term;
- (3) the guarantee provided to the guarantee objective whose asset liability ratio exceeds 70%;
- (4) the single guarantee volume exceeds 5% of the latest audited net assets;
- (5) the guarantee provided to shareholders, the actual controller and connected persons;
- (6) any other external guarantee regulated by laws, administrative regulations, rules of competent authorities and regulatory rules of the listing place.

Article 60 Matters which shall be determined by the shareholders in a general meeting according to the laws, administrative regulations, regulations of the competent departments or the Articles of Association and its

appendices must be discussed by the shareholders in a general meeting in order to protect the shareholders' right of decision on those matters. Where necessary and reasonable, the board of directors, directors or its secretary may be appointed in a shareholders' general meeting to determine (if so authorized in the general meeting) specific matters which are related to the matters to be resolved and are not possible or not necessary to be determined in that general meeting. Please see the Rules and Procedures for the Shareholders' General Meetings for the form of authorization by shareholders to the board of directors in a shareholders' general meeting to determine major matters of the Company.

If the shareholders authorize the board of directors, directors or its secretary in a general meeting to determine matters which shall be determined by ordinary resolutions, the matter should be resolved by more than one-half of the attending shareholders (including their proxy) who have voting rights; if the authorization relates to matters which shall be determined by special resolutions, the matter should be resolved by more than two-thirds of the attending shareholders (including their proxy) who have voting rights. The authorization should be clear and specific.

Article 61 Unless prior approval of shareholders in the form of a special resolution is obtained in a general meeting, the Company shall not enter into any contract with any person other than the directors, supervisors, senior management personnel pursuant to which such person shall be responsible for the management and administration of the whole or any substantial part of the Company's business.

Article 62 Shareholders' general meetings are divided into annual general meetings ("AGM") and extraordinary general meetings ("EGM"). Unless otherwise provided in the Articles of Association and its appendices and the Rules and Procedures for the Shareholders' General Meetings, shareholders' general meetings shall be convened by the board of directors.

Article 63 AGMs are held once every year and within six (6) months from the end of the preceding accounting year. At least the following matters should be resolved in an AGM:

- (1) examination of the board of directors' annual report;
- (2) examination of the supervisory committee's annual report;
- (3) examination of the Company's profit distribution proposal;
- (4) examination of the Company's audited final budgets for the preceding year;
- (5) engagement, removal or non-renewal of the appointment of the accounting firm by the Company and determination of the remuneration of the accounting firm so engaged.

Matters to be considered in an AGM including but without limitation to the above matters, and any matter that could be considered in a general meeting may be considered in an AGM.

Article 64 The board of directors shall convene an EGM within two (2) months after the occurrence of any one of the following events:

- (1) where the number of directors is less than the number stipulated in the Company Law or two-thirds of the number specified in the Articles of Association and its appendices ;
- (2) where the unrecovered losses of the Company amount to one-third of the total amount of its actually received share capital;
- (3) where shareholder(s) who individually or jointly hold 10% or more of the Company's issued and outstanding voting shares request(s) in writing for the convening of an EGM;
- (4) whenever the board of directors deems necessary or the supervisory committee so requests;
- (5) other circumstances provided by laws, administrative regulations, regulations from competent authorities and the Articles of Association and its appendices

The shareholdings referred to in item (3) above shall be calculated on the basis of number of shares held as at the date of written request of the shareholders.

Article 65 The place for convention of the shareholders' general meeting shall be: city where the Company's registered address is or any other place designated by the board of directors. The shareholders' general meeting shall prepare the meeting place and be convened in the form of on-site meeting. The Company could also provide Internet or other means for the convenient attendance of the shareholders, and clearly state the voting time, procedures and the means to identify the shareholders in the notice of the shareholders' general meeting if the Internet or other means is adopted as voting method. Such shareholders as attend the meeting by the aforesaid means shall be deemed presence.

Article 66 Any request for the board of directors to hold an AGM or class meeting made by the supervisory committee or shareholders who individually or jointly hold 10% of the Company's voting shares entitling them to vote in that proposed meeting shall be dealt with according to the provisions of the Rules and Procedures for the Shareholders' General Meetings.

If a meeting is lawfully convened by the shareholders themselves where the board of directors has not given the required consent under the Rules and Procedures for the Shareholders' General Meetings to the same, the reasonable expenses thus incurred shall be borne by the Company and paid out of the money payable by the Company to the negligent director(s).

Article 67 When the Company convenes a shareholders' general meeting, a notice of the meeting shall be given forty-five (45) days (including the date of the meeting) before the date of the meeting. The contents, form and issuing procedures of the notice shall comply with the requirements of the Rules and Procedures for the Shareholders' General Meetings.

Article 68 All shareholders or their agent registered on the stock registration date have the right to attend the shareholders' general meeting and make resolution in accordance with the relevant laws, rules and the Articles of Association and its appendices. Any shareholder who is entitled to attend and vote at a general meeting may attend the shareholders' general meeting of their own, or appoint one (1) or more persons (whether such person is a shareholder or not) as his proxy or proxies to attend and vote on his behalf, and a proxy so appointed shall be entitled to exercise the following rights pursuant to the authorization from that shareholder:

- (1) the shareholders' right to speak at the meeting;
- (2) the right to demand or join in demanding a poll;
- (3) the right to vote by hand or on a poll, but a proxy of a shareholder who has appointed more than one (1) proxy may only vote on a poll.

If the said shareholder is a Recognized Clearing House), the shareholder may authorize one or more suitable person to act as its representative at any shareholders' general meeting or any kinds of shareholders' general meeting; however, if more than one person are authorized, the power of attorney shall clearly indicate the number and types of the stocks involved by way of the said authorization. The persons after such authorization may represent the recognized clearing house (or its "proxy") to exercise the rights, as if they were the individual shareholders of the Company.

Article 69 The instrument appointing a proxy to attend the general meeting shall be in writing clearly indicating the number of shares of the appointor represented by the proxy and shall be under the hand of the appointor or his attorney duly authorized in writing, or if the appointor is a legal person, either under seal or under the hand of a director or a duly authorized attorney. If several proxies are appointed, such written instrument shall clearly indicate the number of shares of the appointor represented by each proxy. The remaining contents and form of the instrument shall comply with the requirements of the Rules and Procedures for the Shareholders' General Meetings.

Article 70 Any form given to a shareholder by the directors for use by such shareholder for the appointment of a proxy to attend and vote at meetings of the Company shall be such as to enable the shareholder to freely instruct the proxy to vote in favour of or against the motions, such instructions being given in respect of each individual matter to be voted on at the meeting. Such a form shall contain a statement that, in the absence of specific

instructions from the shareholder, the proxy may vote as he thinks fit.

Article 71 A vote made in accordance with the terms of a proxy shall be valid notwithstanding the death or loss of capacity of the appointor or revocation of the proxy or the authority under which the proxy was executed, or the transfer of the shares in respect of which the proxy is given, provided that the Company did not receive any written notice in respect of such matters before the commencement of the relevant meeting.

Article 72 The Company's board of directors, independent directors and shareholders who meet the relevant requirements may collect from other shareholders of the Company the rights to vote in a shareholders' general meeting. The collection of voting rights shall be without consideration with sufficient disclosure of information to the shareholders from whom voting rights are being collected. The Company does not set a minimum shareholding limit on the collection of voting rights.

Article 73 Where the shareholders' general meeting is deliberation the connected transactions, the shareholders who are connected persons shall not participate in the vote, and the number of its represented stock shall not be calculated in the total number of valid votes; the announcement of the shareholders' general meeting shall fully reveal the vote of the shareholders who are not connected persons.

If any shareholder are required to abstain from voting or may only vote for or against a matter according to the Rules Governing the Listing of Securities of the Hong Kong Stock Exchange Limited, any vote by such shareholder or his proxy in violation of the relevant rules or restrictions referred to above shall not be counted in the voting results.

Article 74 A shareholder (including a proxy), when voting at a shareholders' general meeting, may exercise such voting rights as are attached to the number of voting shares which he represents except when the accumulated voting system under Article 102 hereof regarding election of directors is adopted in which case one (1) vote is attached to each share. Please refer to the Rules and Procedures for the Shareholders' General Meetings for the implementation of the accumulated voting system.

Shares of the Company held by the Company shall not enjoy voting rights and shall not be calculated in the total number of shares with voting rights held by the present shareholders.

Article 75 At any shareholders' general meeting, a resolution shall be decided on a show of hands unless a poll is demanded or otherwise required by the listing rules of the stock exchanges on which the Company's shares are listed:

- (1) by the chairman of the meeting;
- (2) by at least two (2) shareholders present in person or by proxy entitled to vote thereat;
- (3) by one (1) or more shareholders present in person or by proxy and representing 10 % or more of all shares carrying the right to vote at the meeting singly or in aggregate, before or after a vote is carried out by a show of hands.

Unless a poll is demanded, a declaration by the chairman that a resolution has been passed on a show of hands and the record of such in the minutes of the meeting shall be conclusive evidence of the fact that such resolution has been passed. There is no need to provide evidence of the number or proportion of votes in favour of or against such resolution.

The demand for a poll may be withdrawn by the person who demands the same.

Article 76 A poll demanded on the election of the chairman of the meeting, or on a question of adjournment of the meeting, shall be taken forthwith. A poll demanded on any other question shall be taken at such time as the chairman of the meeting directs, and any business other than that upon which a poll has been demanded may be proceeded with, pending the taking of the poll. The result of the poll shall be deemed to be a resolution of the meeting at which the poll was demanded.

Article 77 On a poll taken at a meeting, a shareholder (including a proxy) entitled to two (2) or more votes need not cast

all his votes in the same way.

Article 78 In the case of an equality of votes, whether on a show of hands or on a poll, the chairman of the meeting at which the show of hands takes place or at which the poll is demanded shall have a casting vote.

Article 79 Resolutions of shareholders' general meetings shall be divided into ordinary resolutions and special resolutions.

An ordinary resolution must be passed by votes representing more than one-half of the voting rights represented by the shareholders (including their proxy) present at the meeting.

A special resolution must be passed by votes representing more than two-thirds of the voting rights represented by the shareholders (including their proxy) present at the meeting.

The shareholders (including their proxy) attending the meeting shall clearly show approval or objection to every matter to be voted on. As for the unpolled vote or abstention, the Company will not treat it as the vote with voting right when calculating the voting result of this matter.

Article 80 The following matters shall be resolved by an ordinary resolution at a shareholders' general meeting:

- (1) work reports of the board of directors and the supervisory committee;
- (2) profit distribution plans and loss recovery plans formulated by the board of directors;
- (3) appointment and removal of members of the board of directors and supervisors assumed by non-representatives of the employees, their remuneration and manner of payment
- (4) annual preliminary and final budgets, balance sheets and profit and loss accounts and other financial statements of the Company;
- (5) matters other than those which are required by the laws and administrative regulations or by the Articles of Association and its appendices to be adopted by special resolution.

Article 81 The following matters shall be resolved by a special resolution at a shareholders' general meeting:

- (1) the increase or reduction in share capital and the issue of shares of any class, warrants and other similar securities;
- (2) the issue of debentures of the Company;
- (3) the division, merger, dissolution, change of corporate form and liquidation of the Company;
- (4) amendment of the Articles of Association and its appendices and its appendices;
- (5) where the purchase or sale of assets or amount of guarantee exceeds 30% of the latest audited total assets;
- (6) stock incentive plan;
- (7) any other matters required by laws, administrative regulations or the Articles of Association and its appendices, and those considered by the shareholders in general meeting, and resolved by way of an ordinary resolution, to be of a nature which may have a material impact on the Company and should be adopted by special resolutions.

Article 82 The chairman of the meeting shall be responsible for determining whether a resolution has been passed. His decision, which shall be final and conclusive, shall be announced at the meeting and recorded in the minutes.

Article 83 If the chairman of the meeting has any doubt as to the result of a resolution which has been put to vote at a shareholders' meeting, he may have the votes counted. If the chairman of the meeting has not counted the

votes, any shareholder who is present in person or by proxy and who objects to the result announced by the chairman of the meeting may, immediately after the declaration of the result, demand that the votes be counted and the chairman of the meeting shall have the votes counted immediately.

Article 84 If votes are counted at a shareholders' general meeting, the result of the count shall be recorded in the minutes.

Article 85 The convenor should be responsible for the authenticity, accuracy and completeness of the minutes of meetings. The present directors, supervisors, secretary of the board of directors, the convenor or its agent, and the presider shall sign their names in the minutes of the meeting. The contents and form of the records of meeting shall comply with the requirements of the Rules and Procedures for the Shareholders' General Meetings.

The minutes of the shareholders' general meetings, together with the shareholders' attendance lists and proxy forms, other valid information in relation to the voting by way of Internet or other means shall be treated as a Company file and kept by the secretary of the board of directors at the Company's place of residence for at least 10 years.

Article 86 Copies of the minutes of proceedings of any shareholders' meeting shall, during business hours of the Company, be open for inspection by any shareholder without charge. If a shareholder requests for a copy of such minutes from the Company, the Company shall send a copy of such minutes to him within seven (7) days after receipt of reasonable fees therefor.

Article 87 Where the shareholders' general meeting passes the resolutions including bonus in cash, bonus in shares or converted and increased capital stock of cumulative fund, the Company shall give effect to the detailed plan within two years after the conclusion of the shareholders' general meeting. In respect of the aforesaid profit distribution plan, the board of directors of the Company shall complete the issue and distribution of dividend (or shares) within two months as of the convention of the shareholders' general meeting.

CHAPTER 9 SPECIAL PROCEDURES FOR VOTING BY A CLASS OF SHAREHOLDERS

Article 88 Those shareholders who hold different classes of shares are class shareholders.

Class shareholders shall enjoy rights and assume obligations in accordance with laws, administrative regulations and the Articles of Association and its appendices.

Article 89 Rights conferred on any class of shareholders ("class rights") may not be varied or abrogated save with the approval of a special resolution of shareholders in a general meeting and by holders of shares of that class at a separate meeting conducted in accordance with Articles 90 to 94 hereof.

Article 90 The following circumstances shall be deemed to be variation or abrogation of the rights attaching to a particular class of shares:

- (1) to increase or decrease the number of shares of that class, or to increase or decrease the number of shares of a class having voting or equity rights or privileges distribution or superior to those of shares of that class;
- (2) to exchange all or part of the shares of that class for shares of another class or to exchange or to create a right to exchange all or part of the shares of another class for shares of that class;
- (3) to remove or reduce rights to accrued dividends or rights to cumulative dividends attached to shares of that class;
- (4) to reduce or remove preferential rights attached to shares of that class to receive dividends or to the distribution of assets in the event that the Company is liquidated;
- (5) to add, remove or reduce conversion privileges, options, voting rights, transfer or pre-emptive rights, or

rights to acquire securities of the Company attached to shares of that class;

- (6) to remove or reduce rights to receive payment payable by the Company in specific currencies attached to shares of that class;
- (7) to create a new class of shares having voting or distribution rights or privileges equal or superior to those of the shares of that class;
- (8) to restrict the transfer or ownership of shares of that class or to increase the types of restrictions attaching thereto;
- (9) to issue rights to subscribe for, or to convert the existing shares into, shares in the Company of that class or another class;
- (10) to increase the rights or privileges of shares of another class;
- (11) to restructure the Company in such a way so as to result in the disproportionate distribution of obligations between the various classes of shareholders;
- (12) to vary or abrogate the provisions of this Chapter.

Article 91 Affected class shareholders, whether or not otherwise having the right to vote at shareholders' general meetings, have the right to vote at class meetings in respect of matters concerning sub-paragraphs (2) to (8), (11) and (12) of Article 89 hereof, but interested shareholder(s) shall not be entitled to vote at such class meetings.

“(An) interested shareholder(s)”, as such term is used in the preceding paragraph, means:

- (1) in the case of a repurchase of shares by way of a general offer to all shareholders of the Company or by way of public dealing on a stock exchange pursuant to Article 29 hereof, an interested shareholder is a “controlling shareholder” within the meaning of Article 54 hereof;
- (2) in the case of a repurchase of shares by an off-market agreement pursuant to Article 29 hereof, a holder of the shares to which the proposed agreement relates;
- (3) in the case of a restructuring of the Company, a shareholder who assumes a relatively lower proportion of obligation than the obligations imposed on shareholders of that class under the proposed restructuring or who has an interest in the proposed restructuring different from the general interests of the shareholders of that class.

Article 92 Resolutions of a class of shareholders shall be passed by votes representing more than two-thirds of the voting rights of shareholders of that class represented at the relevant meeting who, according to Article 90, are entitled to vote thereat.

Article 93 A written notice of a class meeting shall be given to all shareholders who are registered as holders of that class in the register of shareholders forty-five (45) days before the date of the class meeting (not including the date of meeting). Such notice shall give such shareholders notice of the matters to be considered at such meeting, the date and the place of the class meeting. A shareholder who intends to attend the class meeting shall deliver his written reply in respect thereof to the Company twenty (20) days before the date of the class meeting.

If the shareholders who intend to attend such class meeting represent more than half of the total number of shares of that class which have the right to vote at such meeting, the Company may hold the class meeting; if not, the Company shall within five (5) days give the shareholders further notice of the matters to be considered, the date and the place of the class meeting by way of public announcement. The Company may then hold the class meeting after such public announcement has been made.

Article 94 Notice of class meetings need only be served on shareholders entitled to vote thereat.

Class meetings shall be conducted in a manner which is as similar as possible to that of shareholders' general meetings. The provisions of the Articles of Association and its appendices relating to the manner for the conduct of shareholders' general meetings are also applicable to class meetings.

Article 95 Apart from the holders of other classes of shares, the holders of the A Shares and holders of Overseas-Listed Foreign-Invested Shares shall be deemed to be holders of different classes of shares.

The special procedures for approval by a class of shareholders shall not apply in the following circumstances:

- (1) where the Company issues, upon the approval by special resolution of its shareholders in a general meeting, either separately or concurrently once every twelve (12) months, not more than 20% of each of its existing issued A Shares and Overseas-Listed Foreign-Invested Shares; or
- (2) where the Company's plan to issue A Shares and Overseas-Listed Foreign-Invested Shares at the time of its establishment is carried out within fifteen (15) months from the date of approval of the securities regulatory organ of the State Council.

CHAPTER 10 BOARD OF DIRECTORS

Article 96 The Company shall have a board of directors which is accountable to shareholders.

The Company shall set forth Rules and Procedures for the Board of Directors' Meetings for implementation after being approved by the shareholders in a general meeting. The Rules and Procedures for the Board of Directors' Meetings shall include the following items:

- (1) functions and powers and authorizations of the board of directors;
- (2) establishment of the board of directors and its subordinated offices;
- (3) secretary of the board of directors;
- (4) discussion system of a board meeting;
- (5) discussion procedures of a board meeting;
- (6) disclosure of information of a board meeting;
- (7) implementation and feedback of resolutions of a board meeting;
- (8) other matters deemed necessary by the shareholders' general meeting.

The Rules and Procedures for the Board of Directors' Meetings is an integral part of and shall have the same legal effect as these Articles of Association and its appendices.

Article 97 The board of directors shall consist of eleven (11) to fifteen (15) directors and there shall be one (1) Chairman and 1 to 2 Vice-chairman.

Directors can also act as senior management personnel, however, the number of directors who also act as senior management personnel shall not exceed on half of the total number of directors.

Article 98 Directors of the Company shall be natural persons and they are not required to hold any shares in the Company.

Directors shall be elected at the shareholders' general meeting and each Board has a term of three (3) years. The term of office of a director shall be calculated from the date of their assumption of office until the expiry of the term of the present session of the board of directors. At the expiry of the term of office of a director, the term is renewable upon re-election. The term of office of any independent director may not be

renewed for more than 6 years.

Newly appointed directors, supervisors should assume their office immediately after the close of the relevant general meeting, or on the date specified in the resolution of the general meetings.

Where the directors fail in timely re-election, the original directors shall, prior to the assumption of the reelected directors, performs its director duties in accordance with laws, administrative rules, regulations and the provisions of the Articles of Association and its appendices .

Article 99 The list of candidates for directors shall be submitted to the shareholders' general meeting in the form of motion for approval. The Board of Directors should inform the shareholders of the resume and basic profiles of the director candidates by way of announcement.

Candidates other than those for independent directors shall be nominated by the board of directors, the supervisory committee or shareholders who individually or jointly hold 3% or more of the Company's voting shares and be elected by the shareholders in a general meeting.

Candidates for independent directors of the Company shall be nominated by the Company's board of directors, the supervisory committee or shareholders who individually or jointly hold 1% or more of the Company's voting shares and be elected by the shareholders in a general meeting.

Article 100 Independent directors shall be elected in the following manner:

- (1) the nominator of a candidate for independent director shall seek the consent of the nominee, find out the occupation, academic qualification, rank and detailed working experience including all part-time jobs of the nominee and provide written proofs of the same to the Company before making the nomination. The candidate shall give a written undertaking to the Company agreeing to be nominated, undertaking the truthfulness and completeness of his particulars disclosed and guaranteeing the performance of a director's duties after being elected.
- (2) the nominator of an independent director shall give opinion on the qualification and independence of the nominee to act as an independent director. The nominee shall make an open announcement as to the absence of any relation between the Company and him which would affect his independent and objective judgment.
- (3) if the nomination of candidates for independent directors is made before the Company's convening of a board meeting, the written proofs of the nominee referred to in sub-paragraphs (1) and (2) above shall be disclosed together with the board resolution or the notice of shareholders' general meeting.
- (4) if the shareholders who individually or jointly hold 3% or more of the Company's total voting shares nominates in a general meeting of the Company according to law the independent directors' candidates, a written notice stating their intention to nominate a candidate for directors and the nominee's consent to be nominated together with the written proofs and undertaking of the nominee referred to in sub-paragraphs (1) and (2) above shall be delivered to the Company not less than ten (10) days before the general meeting, and the period granted by the Company for lodging the above notice and documents by the relevant nominator (such period shall commence from the date after the issue of the notice of the general meeting) shall not be less than ten (10) days
- (5) when issuing notice of shareholders' general meeting where independent directors are to be elected, the Company shall submit the relevant information of all nominees to the domestic stock exchange on which the Company's shares are listed. The written opinions of the board of directors shall also be submitted in case the Company's board has any dispute as to the particulars of the nominee. If the stock exchange on which the Company's shares are listed opposes to the nomination of any nominee, this nominee may not be included as a candidate for independent directors. In convening a general meeting to elect independent directors, the Company's board shall specify if the stock exchange on which the Company's shares are listed has any dispute as to the candidates for independent directors.

Article 101 Non-independent directors shall be elected in the following manner:

- (1) the nominator of a candidate for non-independent director shall seek the consent of the nominee, find out the occupation, academic qualification, rank and detailed working experience including all part-time jobs of the nominee and provide written proofs of the same to the Company before making the nomination. The candidate shall give a written undertaking to the Company agreeing to be nominated, undertaking the truthfulness and completeness of his particulars disclosed and guaranteeing the performance of a director's duties after being elected.
- (2) if the nomination of candidates for non-independent directors is made before the Company's convening of a board meeting, the written proofs of the nominee referred to in sub-paragraph (1) above shall be disclosed together with the board resolution or the notice of the shareholders' general meeting.
- (3) if the shareholders who individually or jointly hold 3% or more of the Company's voting shares or nominates in a general meeting of the Company according to law the independent directors' candidates, a written notice stating their intention to nominate a candidate for directors and the nominee's consent to be nominated together with the written proofs and undertaking of the nominee referred to in sub-paragraph (1) above shall be delivered to the Company not less than ten (10) days before the general meeting, and the period granted by the Company for lodging the above notice and documents by the relevant nominator (such period shall commence from the date after the issue of the notice of the general meeting) shall not be less than ten (10) days".

Article 102 The following basic requirements shall be met in order to be an independent director:

- (1) qualified to be a director of a listed company under the laws, administrative regulations and other relevant provisions;
- (2) has basic knowledge of the operation of a listed company, familiar with the relevant laws, administrative rules, regulations and rules from competent authorities;
- (3) has 5 years or more of legal or financial experience or other experience in performing the duties of an independent director;
- (4) independence and other requirements stipulated by laws, administrative rules, regulations of the competent authorities and the Articles of Association and its appendices .

Article 103 AWhen voting on the election of directors and supervisors in a shareholders' general meeting, cumulative voting system in accordance with the relevant laws and regulations in effect shall be adopted. In the event of inconsistency between the laws and regulations and the Articles of Association and its appendices, the Board of the Directors may decide to adopt an appropriate cumulative voting system subject to laws and decrees. Please refer to the Rules and Procedures for the Shareholders' General Meetings for details of implementation of the accumulative voting system.

Article 104 Provided that the relevant laws and administrative rules are observed, a director whose term of office has not yet been expired may be removed in a general meeting by way of ordinary resolution (but the right to lodge a claim under a contract is not affected).

If a director has failed to attend a board meeting personally nor appoint a proxy to attend on his behalf on two consecutive occasions, it shall be treated as a failure to discharge his duties. The board of directors shall propose in a shareholders' general meeting to remove and replace this director.

If an independent director has failed to attend a board meeting personally on three consecutive occasions, the board of directors shall propose in a shareholders' general meeting to remove and replace this director. Unless in the above circumstances and in circumstances as provided in the Company Law where a person is prohibited from acting as a director, no independent director may be removed before his term of office expires. In case of early removal, the Company shall disclose it by way of special disclosure. If the removed independent director considers that he is removed by the Company improperly, he may make an open declaration.

Article 105 A director may resign before his term of office expires. In resigning his duties, a director shall tender a

resignation to the board in writing and the board of directors shall disclose the relevant information within two days.

Article 106 If the resignation of a director causes the board members of the Company to fall below the minimum number of members to form a quorum, prior to the assumption of the re-elected directors, the former directors shall perform their directorship pursuant to laws, administrative rules, regulations and the Articles of Association and its appendices .

If the resignation of an independent director causes the proportion of independent directors in the board of the Company to fall below the minimum requirements of the relevant regulatory authorities, the resignation of this independent director shall be effective only after the succeeding independent director has filled his vacancy.

Notwithstanding the foregoing, the resignation of the directors shall take effect upon receipt of the resignation notification by the Board of Directors.

Article 107 The board of directors shall exercise the following functions and powers:

- (1) to be responsible for the convening of the shareholders' general meeting and to report on its work to the shareholders in general meetings;
- (2) to implement the resolutions passed by the shareholders in general meetings;
- (3) to determine the Company's business plans and investment proposals;
- (4) to formulate the Company's annual preliminary and final financial budgets;
- (5) to formulate the Company's profit distribution proposal and loss recovery proposal;
- (6) to formulate proposals for the credit and financial policies of the Company, the increase or reduction of the Company's registered capital and for the issue of any kind of securities of the Company's (including but without limitation to the Company's debentures) and proposals for listing and repurchase of the Company's shares;
- (7) to set forth plans for significant acquisition or disposal proposals, the merger, division, change of corporate form or dissolution of the Company;
- (8) to determine the risks investments of the Company in relation to, external investment, purchase or sale of assets, pledge, entrusting financing, connected transaction;
- (9) to examine external guarantees of the Company in accordance with laws and the provisions of the Articles of Association and its appendices ;
- (10) to decide on the Company's internal management structure;
- (11) to appoint or remove the Company's president and to appoint or remove senior vice-president, the vice-president and Chief Financial Officer of the Company according to the recommendations of the president; to appoint or remove the secretary of the board of directors and to decide on their remuneration;
- (12) to appoint or replace the members of the board of directors and the supervisory committee of its wholly-owned subsidiary, appoint, replace or recommend the shareholders' proxies, directors (candidates) and supervisors (candidates) of its subsidiary(ies) which are controlled or invested by the Company.
- (13) to determine the establishment of Company's branch offices;
- (14) to formulate proposals for any amendment of the Articles of Association and its appendices and its appendices;

- (15) to set forth the Company's basic management system;
- (16) to manage the disclosure of information of the Company;
- (17) to propose in a shareholders' general meeting to engage or replace the accounting firm which undertakes auditing work of the Company;
- (18) to listen to the president's work report and check the president's work;
- (19) to determine important matters and administrative matters of the Company other than those which should be determined by resolution of a shareholders' general meeting of the Company except for the matters as specified by law, administrative rules, regulations of the competent department(s) and these Articles of Association and its appendices , and to sign other important agreements;
- (20) to exercise any other powers stipulated by laws, administrative rules, regulations of the competent department(s) or the Articles of Association and its appendices and conferred by the shareholders in a general meeting.

Other than the board of directors' resolutions in respect of the matters specified in sub-paragraphs (6), (7) and (14) of this Article which shall be passed by the affirmative vote of more than two-thirds of all the directors, the board of directors' resolutions in respect of all other matters may be passed by the affirmative vote of over half of the directors ((9) should be approved by more than two-thirds of the directors attending the meeting.)

Article 108 The above functions and powers of board meetings may be authorized to one or more directors upon the agreement of all directors, but matters concerning material interests of the Company shall be determined by the board collectively. The authorization of the board shall be clear and specific.

Article 109 An independent director shall have the following special functions and powers in addition to those conferred by the Company Law, other relevant laws, administrative rules and the Articles of Association and its appendices :

- (1) material connected transactions (determined according to the standards issued from time to time by the relevant regulatory authorities in the place where the Company's shares are listed) which should be approved by the board of directors or the shareholders' general meeting according to law shall, upon the recognition of independent directors, be submitted to the board of directors for discussion. Any resolution made by the board of directors regarding the Company's connected transactions must only be effective after it has been signed by the independent directors. The independent directors may, before making a judgment, engage an intermediary to issue an independent financial report for them to rely upon in making the judgment;
- (2) to propose to the board of directors to engage or remove an accounting firm;
- (3) two or more than one-half of the independent directors may propose to the board of directors to convene an EGM;
- (4) to propose the calling of a board meeting;
- (5) to engage an external auditing or advisory organ independently;
- (6) to collect voting rights from shareholders prior to the convening of a shareholders' general meeting;
- (7) to report directly to the shareholders' general meetings, securities regulatory organ under the State Council and other relevant departments.

The independent directors shall seek the consent of more than half of the independent directors in exercising their functions and powers other than sub-paragraphs (1) and (3) above.

If the above proposal is not accepted or the above functions and powers are not exercised properly, the Company shall disclose the same.

Article 110 When making decisions on significant matters such as direction of reform and development, key objectives, and priority operational arrangements of the Company, the board of directors should seek advice from the Party organization. When the board of directors appoints the management personnel of the Company, the Party organization shall consider and provide comments on the candidates for management positions nominated by the board of directors or the president, or recommend candidates to the board of directors and/or the president.

Article 111 In respect of approval authority of the board of directors in relation to external investment, purchase or sale of assets, pledge, external guarantee, entrusting financing, connected transaction, the Rules and Procedures for the Board of Directors' Meetings shall provide with clear rules, the board of directors shall lay down strict procedures to inspect and decide on risks investments in respect of the aforesaid matters. For major investment projects in excess of the approval limit of the board of directors, it shall organize the relevant experts and professional officers to conduct assessment for approval of the shareholders in a general meeting.

Article 112 The Chairman and the Vice-Chairman shall be directors of the Company and be appointed and removed by affirmative vote of a simple majority of all directors. The term of office of the Chairman or the Vice-Chairman shall be three (3) years which term is renewable upon re-election.

Article 113 The Chairman of the board of directors shall exercise the following functions and powers:

- (1) to preside over shareholders' general meetings and to convene and preside over meetings of the board of directors;
- (2) to co-ordinate and perform the responsibilities of the board of directors and review on the implementation of resolutions passed by the board of directors at directors' meetings;
- (3) to sign the certificates of shares, debentures and other valuable securities issued by the Company;
- (4) to sign important documents of the board and other documents which should be signed by the Company's legal representative;
- (5) to exercise the functions and powers of a legal representative;
- (6) where it is lawful and in the interest of the Company, to exercise the special right to deal with the Company's affairs during emergency such as the occurrence of natural disasters, and to report to the Company's board of directors and general meetings thereafter;
- (7) to exercise other powers conferred by the board of directors.

The vice-chairman of the board of directors shall assist the chairman of the board with its work. Whenever the Chairman is unable to or fails to exercise his/her powers, the vice-chairman of the board shall perform the duties (if the Company has two or more vice chairman of the board, the vice-chairman voted by more than one half of the directors shall perform the duties); where the vice-chairman of the board is unable to or fails to fulfill his/her duty, a director shall be elected by half of the total members of the board of directors to perform the duties.

Article 114 Board meetings shall be convened regularly at least 4 times a year. An EGM shall be called for on occurrence of any of the events set out in the Rules and Procedures for the Board of Directors' Meetings.

The calling for a board meeting, and the contents and form of a notice of meeting shall comply with the requirements of the Rules and Procedures for the Board of Directors' Meetings.

Article 115 Meetings of the board of directors shall be held only if more than half of all the directors (including any alternate director appointed) are present. Each director shall have one (1) vote. Where there is an equality of votes cast both for and against a resolution, the Chairman of the board of directors shall have an additional

vote.

Article 116 Directors shall attend the meetings of the board of directors in person. Where a director is unable to attend a meeting for any reason, he may by a written power of attorney appoint another director to attend the meeting on his behalf. The power of attorney shall set out the name of the proxy, the subject and scope of authorization and validity of the time limit of the proxy, which shall be signed or officially sealed by the authorizing party.

A director appointed as a representative of another director to attend the meeting shall exercise the rights of a director within the scope of authority conferred by the appointing director. Where a director is unable to attend a meeting of the board of directors and has not appointed a representative to attend the meeting on his behalf, he shall be deemed to have waived his right to vote at the meeting.

All expenses incurred by the directors for attending the board meeting shall be borne by the Company, including the traffic expense from the place where the director is located to the place where the meeting is convened, as well as the board and lodging expenses during the term of meeting. The miscellaneous expenses such as the rental of meeting room and the local traffic expenses etc. shall also be borne by the Company.

Article 117 Apart from meetings on site, interim meetings of the board of directors may take the form of video-conference, written communications over the resolutions, or any other methods, provided that directors are ensured to fully express their opinions. In any event, such meetings are in compliance with the Rules and Procedures for the Board of Directors' Meetings.

Article 118 Matters determined in a board meeting shall be recorded in Chinese in the form of Records of Meeting. The contents and form of Records of Board Meetings shall comply with the Rules and Procedures for the Board of Directors' Meetings.

Article 119 Directors shall be liable for board resolutions. If a board resolution is against the law, administrative rules or the Articles of Association and its appendices and resolutions of the shareholders' general meetings, thus causes the Company to suffer any loss, the directors who participate in voting shall assume the liability to compensate to the Company; directors who are proved to have cast a dissenting vote against the motion during the voting as recorded in the records of meeting shall be exempted from liability.

CHAPTER 11 SECRETARY OF THE BOARD OF DIRECTORS

Article 120 The Company shall have one (1) secretary of the board of directors, being a senior management personnel, shall be accountable to the Company and the board of directors. The Company shall set forth regulations in relation to the work of the Secretary of the Board to promote the management of the Company and make provisions for disclosure of information and investor relations.

The board of directors may establish its secretarial department when necessary.

Article 121 A director or a member of the senior management personnel of the Company may concurrently act as the secretary of the Company's board of directors. No accountant of the accounting firm engaged by the Company may concurrently act as the secretary of the Company's board of directors.

The secretary of the Company's board of directors shall be a natural person who has the requisite professional knowledge and experience, and shall be nominated by the Chairman of the Board and appointed by the board of directors. In the case of a director acting concurrently as the secretary of the board, if an act has to be performed by a director and the secretary of the board respectively, this director acting concurrently as the secretary of the board may not act in both identities.

Article 122 The main duties and responsibilities of the secretary of the board of directors include:

- (1) to assist directors to deal with the daily matters of the board of directors, continuously provide, remind and ensure directors and the president, etc. to be well informed of the laws, regulations,

policies and requirements of both domestic and overseas regulatory organizations concerning the operation of the Company, and assist directors and the president to practically implement the domestic and foreign laws, regulations, the Articles of Association and its appendices and other regulations when performing their duties and powers

- (2) to be responsible for the organization and preparation of the documents of the board of directors and shareholders' general meeting, well prepare the meeting record work, ensure the meeting policies in conformity with the legal procedures, and to keep abreast of the execution of the resolutions of the board of directors;
- (3) to be responsible for the organization and coordination of information disclosure, to ensure of a timely, accurate, lawful, true and complete disclosure of information, coordination of the relationship with the investors, and enhancement of the transparency of the Company;
- (4) to participate in and organize the financing in capital market;
- (5) to deal with the relationships with the intermediary organs, regulatory authorities and the Media.

Article 123 The secretary of the board of directors shall discharge his duties diligently according to laws, administrative rules, regulations of the competent authorities and the Articles of Association and its appendices.

The secretary of the board of directors shall assist the Company to comply with the relevant PRC law and regulations of the securities regulatory organ of the place where the Company's shares are listed.

CHAPTER 12 PRESIDENT

Article 124 The Company shall have a president who is accountable to the board of directors. The president shall be nominated by the Chairman of the board of directors and appointed or removed by the board of directors.

The Company shall have a senior vice president, several vice-presidents, and one Chief Financial Officer who shall assist the president in work. The senior vice president, Chief Financial Officer and the vice-presidents shall be nominated by the president and appointed or removed by the board of directors.

Article 125 The president shall exercise the following duties and powers:

- (1) to be in charge of the Company's production, operation and management, to co-ordinate the implementation of the resolutions of the board of directors and to report his work to the board of directors;
- (2) to organize the implementation of the Company's annual business plan and investment proposal;
- (3) to draft plans for the establishment of the Company's internal management structure;
- (4) to draft plans for the establishment of the branch company of the Company;
- (5) to draft the Company's basic management system;
- (6) to formulate specific rules and regulations for the Company;
- (7) to propose the appointment or dismissal of the Company's senior vice president, vice-president(s) and Chief Financial Officer;
- (8) to appoint or dismiss management personnel other than those required to be appointed or dismissed by the board of directors;
- (9) to determine the wages, fringe benefits, rewards and punishments of the Company's staff, to determine the appointment and dismissal of the Company's staff;

- (10) to propose the convening of extraordinary meetings of directors;
- (11) other powers conferred by the Articles of Association and its appendices and the board of directors.

Article 126 The president and other senior officers who are not directors, have the right to attend board meetings and to receive notices of meetings and other relevant documents, but do not have any voting rights at board meetings.

Article 127 The president shall set forth “Work Regulations for the President” for implementation upon the approval of the board of directors.

Article 128 The Work Regulations for the President shall include:

- (1) requirements and procedures for the convening of a presidents’ meeting and the officers attending;
- (2) the president, senior vice-presidents, Chief Financial Officer and vice presidents shall divide their duties among themselves and perform their own duties;
- (3) use of the Company’s funds and assets, authority to sign major contracts and the system to report to the board of directors and to the supervisory committee at the request of the supervisory committee;
- (4) other matters as the board of directors may consider necessary.

Article 129 In performing their functions and powers, the president, senior vice-presidents, the Chief Financial Officer and vice presidents shall act honestly and diligently and in accordance with laws, administrative regulations and the Articles of Association and its appendices. They may not alter the resolutions of a shareholders’ general meeting or of a board meeting nor act ultra vires.

CHAPTER 13 SUPERVISORY COMMITTEE

Article 130 The Company shall have a supervisory committee which is accountable to the shareholders’ general meetings.

The Company shall set forth “Rules and Procedures for the Supervisors’ Meetings” for implementation upon being approved by the shareholders in a general meeting. The Rules and Procedures for the Supervisors’ Meetings shall include the followings:

- (1) the formation and business system of the supervisory committee;
- (2) the functions and powers of the supervisory committee;
- (3) the system of discussion of the supervisors’ meetings;
- (4) the procedures of discussion of the supervisory committee;
- (5) the disclosure of information of the supervisors’ meetings;
- (6) implementation and feedback of resolutions of the supervisory committee;
- (7) other matters as the shareholders’ general meetings may consider necessary.

The Rules and Procedures for the Supervisors’ Meetings shall be an integral part of and have the same legal effect as these Articles of Association and its appendices.

Article 131 The supervisory committee shall compose of 7-9 supervisors. Of which, supervisors assumed by representatives of workers and staff of the Company shall not be less than 1/3. The supervisors assumed by non-representatives of the employees shall be elected and dismissed through the employee

representatives meetings, employee meetings or through other forms of democratic election.

Each supervisor shall serve for a term of 3 years, which term is renewable upon re-election and reappointment. The supervisor's term shall be calculated from the date of appointment to the expiration of the term of the relevant session of the supervisory committee. Where the supervisor fails to be re-elected upon the expiration of its term, the former supervisor shall, prior to the assumption of the reelected supervisor, perform the duty hereof in accordance with laws, administrative rules, regulations and the provisions in the Articles of Association and its appendices.

Article 132 The supervisory committee shall have one (1) Chairman, and may have a deputy Chairman, both of whom shall be supervisors. The election or removal of the Chairman and deputy Chairman of the supervisory committee shall be determined by two-thirds or more of the members of the supervisory committee.

The Chairman of the supervisory committee shall exercise the duties and powers of the supervisory committee.

The Chairman of the supervisory committee shall convene and preside over the meetings. In the event that the Chairman is unable to or fails to perform such duties, the deputy Chairman of the supervisory committee shall convene and preside over such meetings; if the deputy Chairman is unable to or fails to perform such duties, over half of the supervisors shall jointly recommend a supervisor, who shall convene and preside over the meetings.

Article 133 If necessary, the supervisory committee may establish its offices responsible for daily affairs of the supervisory committee.

Article 134 A director and senior management personnel may not act concurrently as a supervisor.

Article 135 The list of supervisors assumed by the non-representatives of the employees shall be submitted to the shareholders' general meeting in the form of motion for approval. The board of directors shall announce the resume and basic profile of the candidate supervisors to the shareholders.

The candidates for supervisors who are shareholder representatives shall be nominated by the Company's board of directors, the supervisory committee or shareholders who individually or jointly hold 3% or more of the Company's voting shares and be elected by the shareholders in a general meeting.

The candidates for independent supervisors shall be nominated by the Company's board of directors, the supervisory committee or shareholders who individually or jointly hold 1% or more of the Company's voting shares and be elected by the shareholders in a general meeting.

Article 136 The supervisors who are shareholders representatives and independent supervisors shall be elected in the following manner:

- (1) the nominator of a candidate for supervisor who is a shareholder representative or an independent supervisor shall seek the consent of the nominee, find out the occupation, academic qualification, rank and detailed working experience including all part-time jobs of the nominee and provide written proofs of the same to the Company before making the nomination. The candidate shall give a written undertaking to the Company agreeing to be nominated, undertaking the truthfulness and completeness of his particulars disclosed and guaranteeing the performance of a director's duties after being elected.
- (2) If the nomination of a candidate for supervisor who is a shareholder representative or an independent supervisor is made before the Company's convening of a board meeting, the written proofs of the nominee referred to in sub-paragraphs (1) above shall be disclosed together with the board resolution or the notice of the shareholders' general meeting.
- (3) If the shareholders who have the rights to nominate nominates in a shareholders' meeting of the Company a candidate for a supervisor who is a shareholder representative or a candidate for an independent supervisor, a written notice stating their intention to nominate a candidate for a supervisor and the nominee's consent to be nominated together with the written proofs and undertaking of the nominee referred to in sub-paragraph (1) above shall be delivered to the Company

ten (10) days before the AGM.

Article 137 A supervisor may resign before his term expires, and shall submit a written resignation report to the supervisor committee.

Where the resignation of supervisors within his (her) term has resulted in the number of the total member in supervisory committee is lower than the quorum, the former supervisor shall, prior to the assumption of the reelected supervisor, perform the duty hereof in accordance with laws, administrative rules, regulations and the provisions in the Articles of Association and its appendices . Apart from the aforesaid situation, the resignation of the supervisors shall be effective upon the receipt of the written resignation report by the supervisory committee.

Article 138 Supervisors' meetings shall be convened regularly at least 4 times a year. An extraordinary supervisors' meeting shall be convened on occurrence of any of the events specified in the Rules and Procedures for the Supervisors' Meetings. The meetings shall be called upon by the Chairman of the supervisory committee.

A 10 days' prior notice shall be given to all supervisors for the convening of a supervisors' meeting. The convening of a supervisors' meeting and the contents and form of the notice of meeting shall comply with the Rules and Procedures for the Supervisors' Meetings.

Article 139 The supervisory committee shall exercise the following functions and powers in accordance with law:

- (1) to review the Company's financial position; to appoint another accounting firm in the name of the Company to review the Company's financial condition independently;
- (2) to supervise the directors, senior management personnel to ensure that they do not act in contravention of any law, regulation or the Articles of Association and its appendices , and to advise on dismissal of directors or senior management personnel who are in breach of laws, administrative rules, the Articles of Association and its appendices or resolutions of the shareholders' general meetings;
- (3) to demand the directors or the senior management personnel to rectify their error if they have acted in a harmful manner to the Company's interest;
- (4) to check and inspect the financial information such as the financial report, business report and plans for distribution of profits to be submitted by the board of directors to the shareholders' general meetings and to authorize, in the Company's name, publicly certified and practicing accountants to assist in the review on such information should any doubt arise in respect thereof, examine and opine in writing on the periodical reports of the Company prepared by the board of directors;
- (5) to make recommendations of accounting firms for engagement by the Company;
- (6) to make motions in a shareholders' general meeting;
- (7) to propose to convene an EGM, where the board of directors fails to perform the duties in relation to convene or preside a shareholders' general meeting as required by the Company Laws, to convene and preside the shareholders' general meeting;
- (8) to propose to convene an extraordinary board meeting;
- (9) to represent the Company in negotiations with or in bringing actions against a director or a senior management personnel;
- (10) to investigate into any abnormalities in operation of the Company; if necessary, to engage accounting firms, law firms and other professional institutions to assist its work, and the expenses shall be borne by the Company;

(11) other duties and powers as may be specified by the Articles of Association and its appendices .

Supervisors shall attend meetings of the board of directors, and may enquire or advise on matters in the resolutions of the board of directors.

Article 140 The supervisory committee may require the directors, senior management personnel, internal and external auditors to attend supervisors' meetings and answer any question that the supervisory committee may have regarding matter it cares about.

Article 141 Resolutions of the supervisory committee shall be passed by the affirmative vote of more than two-thirds of all of its members.

Article 142 Records shall be made for all supervisors' meetings and be signed by all attending supervisors and the recording person. Supervisors shall have the right to ask for the making of a descriptive record of what he speaks in the meeting. Records of supervisors' meetings shall be treated as the Company's files and kept in the business system of the supervisory committee for at least 10 years.

Article 143 All reasonable fees incurred in respect of the employment of professionals (such as, lawyers, certified public accountants or practicing auditors) which are required by the supervisory committee in the exercise of its functions and powers shall be borne by the Company.

Article 144 A supervisor shall carry out his duties faithfully and bona fide in accordance with laws, administrative regulations and the Articles of Association and its appendices.

CHAPTER 14 QUALIFICATIONS AND OBLIGATIONS OF THE DIRECTORS, SUPERVISORS, SENIOR MANAGEMENT PERSONNEL OF THE COMPANY

Article 145 A person may not serve as a director and a senior management personnel of the Company if any of the following circumstances apply:

- (1) a person who does not have or who has limited capacity for civil conduct;
- (2) a person who has been found guilty of for corruption, bribery, infringement of property or misappropriation of property or other crimes which destroy the social economic order, and the sentence is enforced for less than five (5) years or a person who has been deprived of his political rights and not more than five (5) years have lapsed since the sentence was served;
- (3) a person who is a former director, factory manager or president of a company or enterprise which has been dissolved or put into liquidation as a result of mismanagement and who was personally liable for the winding up of such company or enterprise, where less than three (3) years have elapsed since the date of completion of the insolvent liquidation of the company or enterprise;
- (4) a person who is a former legal representative of a company or enterprise the business licence of which was revoked due to violation of law and who are personally liable therefor, where less than three (3) years have elapsed since the date of the cancellation of the business licence;
- (5) a person who has a relatively large amount of debts which have become due and outstanding;
- (6) a person who is currently under investigation by the judicial authorities for violation of criminal law;
- (7) a person who, according to laws and administrative regulations, or regulations of the competent authorities cannot act as a leader of an enterprise;
- (8) a person other than a natural person;

- (9) a person who has been adjudged by the competent authority for violation of relevant securities regulations and such conviction involves a finding that such person has acted fraudulently or dishonestly, where not more than five (5) years have lapsed from the date of such conviction;
- (10) a person who has been prohibited by the securities regulatory authority of the State Council to participate in market activities and the prohibition has still not been uplifted.
- (11) other circumstances which are applicable according to laws and administrative regulations, or regulations of the competent authorities.

The election of directors, supervisors or the engagement of senior management personnel in contravention to the provisions under this Article shall be null and void. Upon any contravention of (1) of this Article above by the directors, supervisors or senior management personnel during their term of office, the Company shall remove them from their position.

Article 146 The chairman, vice-chairman and directors of the Company's controlling shareholder acting concurrently as the chairman, vice-chairman or director of the Company may not exceed 2 in number.

Personnel as acting on positions other than directors in the Company's controlling shareholders or actual controllers shall not act as senior management personnel of the Company.

Article 147 The following people may not act as an independent director of the Company:

- (1) persons employed by the Company or its subsidiaries and their immediate family members and major social connections (immediate family members shall mean spouse, parents and issues, etc. and major social connections shall mean siblings, parents-in-law, sons/daughters-in-law, spouse of siblings, siblings of spouse, etc.);
- (2) natural person shareholders who directly or indirectly hold 1% or more of the Company's issued shares or who are top 10 shareholders and their immediate family members;
- (3) persons employed by the shareholder company which directly or indirectly holds 5% or more of the Company's issued shares or by the top five shareholder companies of the Company and their immediate family members;
- (4) persons who once belonged to categories (1) to (3) above in the past 3 years;
- (5) persons who provide financial or legal advice to the Company or its subsidiaries;
- (6) any independent director who is already the director of five listed companies;
- (7) other persons determined by the securities regulatory authority of the State Counsel.

Article 148 The validity of an act carried out by a director, a supervisor, a senior management personnel of the Company on its behalf shall, as against a bona fide third party, not be affected by any irregularity in his office, election or any defect in his qualification.

Article 149 Without the lawful authorization of the Articles of Association and its appendices or the board of directors, a director of the Company may not act personally on behalf of the Company or the board of directors. If he acts personally, he shall declare his own position and identity in advance where the acting would cause a third party to believe reasonably that he is acting on behalf of the Company or the board of directors.

Article 150 In addition to the obligations imposed by laws, administrative regulations or the listing rules of the stock exchange on which shares of the Company are listed, each of the Company's directors, supervisors, president, and senior management personnel owes a duty to each shareholder, in the exercise of the duties and powers of the Company entrusted to him:

- (1) not to procure the Company to do anything ultra vires to the scope of business as stipulated in its business licence;
- (2) to act honestly and in the best interests of the Company;
- (3) not to expropriate the Company's property in any way, including (without limitation to) usurpation of opportunities which may benefit the Company;
- (4) not to deprive of the individual interest of shareholders, including (without limitation to) rights to distribution and voting rights, save and except pursuant to a restructuring of the Company which has been submitted to the shareholders in general meeting for approval in accordance with the Articles of Association and its appendices .

Article 151 Each of the Company's directors, supervisors, and senior management personnel owes a duty, in the exercise of his powers and in the discharge of his duties, to exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances.

Article 152 The directors shall abide by laws, administrative rules and the Articles of Association and its appendices , bearing the following obligations to the Company:

- (1) in line with the national laws, administrative rules as well as the various requirements of the national economic policies, exercise meticulously, gravely and assiduously the rights authorized by the Company so as to ensure the Company's business act within the scope prescribed in the business licence;
- (2) give fair treatment to all the shareholders;
- (3) investigate the performance of the Company;
- (4) report regularly to the Company and signing confirmation opinion in writing to ensure the sincerity, preciseness and integrity of the information revealed by the Company;
- (5) provide genuinely the relevant information and material to the supervisory committee, and not impede the supervisory committee to exercise its functional and powers;
- (6) other obligations prescribed in relevant laws, administrative rules, regulations and Articles of Association and its appendices.

The obligations as stated in aforesaid (4) to (6) shall also be applicable to senior management personnel.

Article 153 Each of the Company's directors, supervisors, and senior management personnel shall exercise his powers or perform his duties in accordance with the fiduciary principle, and shall not put himself in a position where his duty and his interest may conflict. This principle includes (without limitation to) discharging of the following obligations:

- (1) to act bona fide in the best interests of the Company;
- (2) to act within the scope of his powers and not to exceed such powers;
- (3) to exercise the discretion vested in him personally and not to allow himself to act under the control of another and, unless and to the extent permitted by laws, administrative regulations or with the informed consent of shareholders given in a general meeting, not to transfer the exercise of his discretion;
- (4) to treat shareholders of the same class equally and to treat shareholders of different classes fairly;
- (5) unless otherwise provided for in the Articles of Association and its appendices or except with the informed consent of the shareholders given in a general meeting, not to enter into any contract,

transaction or arrangement with the Company;

- (6) not to use the Company's property for his own benefit, without the informed consent of the shareholders given in a general meeting;
- (7) not to abuse his position to accept bribes or other illegal income or expropriate the Company's property in any way, including (without limitation to) opportunities which benefit the Company;
- (8) not to accept commissions in connection with the Company's transactions, without the informed consent of the shareholders given in a general meeting;
- (9) to comply with the Articles of Association and its appendices, to perform his official duties faithfully, to protect the Company's interests and not to exploit his position and power in the Company to advance his own interests;
- (10) not to compete with the Company in any way, save with the informed consent of the shareholders given in a general meeting;
- (11) not to misappropriate the Company's funds or to lend such funds to any other person, not to use the Company's assets to set up deposit accounts in his own name or in the any other name or to use such assets to guarantee the debts of a shareholder of the Company or any other personal liabilities;
- (12) not to divulge any confidential information which he has obtained during his term of office, without the informed consent of the shareholders in a general meeting; nor shall he use such information otherwise than for the Company's benefit, unless disclosure of such information to the court or other governmental authorities is made in the following circumstances:
 1. disclosure is required by law;
 2. public interests so warrants;
 3. the interests of the relevant director, supervisor, or senior management personnel so requires.

Article 154 Each director, supervisor, senior management personnel of the Company shall not direct the following persons or institutions ("associates") to act in a manner which a director, supervisor or senior management personnel is prohibited from so acting:

- (1) the spouse or minor children of the director, supervisor, or senior management personnel of the Company;
- (2) the trustee of the director, supervisor, senior management personnel or of any trustee described in subparagraph (1) above;
- (3) partners of directors, supervisors, senior management personnel or any person referred to in subparagraphs (1) and (2) of this Article;
- (4) a company in which a director, supervisor, senior management personnel, whether alone or jointly with one (1) or more of the persons referred to in sub-paragraphs (1), (2) and (3) of this Article and other directors, supervisors, senior management personnel, has de facto controlling interest;
- (5) the directors, supervisors and senior management of a company which is being controlled in the manner set out in subparagraph (4) above, including but without limitation to directors, supervisors and president.

Article 155 The directors, supervisors and senior management personnel of the Company, during their tenure, shall periodically report to the Company of the status on their holding of the Company's shares and any changes thereof; during their tenure the total number of shares transferred on an annual basis shall not exceed 25% of the total number of the shares of the Company held by them; the above personnel shall not transfer their shares of the Company they hold within one year from the listing of the relevant Company's shares. The

aforesaid personnel shall not transfer the Company's shares held by them within six months after they leave their positions in the Company. The aforesaid shall not apply to the change in shareholding due to judicial enforcement, heritage, gift and distribution of estate by operation of laws.

The directors, supervisors and senior management personnel, who hold less than 1,000 shares of the Company, may transfer their shares once in all, but not subject to the aforesaid percentage restrictions.

Article 156 The duty of a director, supervisor, and the senior management personnel to act in good faith does not necessarily terminate on the expiration of their term of office. His duty of confidentiality in respect of trade secrets of the Company survives the termination of his tenure until the same has become open information. Other duties may continue for such period as the principle of fairness may require depending on the length of time which has lapsed between the termination and the act concerned and on the circumstances and the terms under which the relationship between the relevant director, supervisor, manager and the senior officer on one hand and the Company on the other hand was terminated.

Article 157 A director, supervisor, and a senior management personnel of the Company may be relieved of liability for specific breaches of his duty with the informed consent of the shareholders given at a general meeting, save under the circumstances of Article 53 hereof.

Article 158 Where a director, supervisor, senior management personnel of the Company is in any way, directly or indirectly, materially interested in a contract, transaction or arrangement or proposed contract, transaction or arrangement with the Company, (other than his contract of service with the Company), he shall declare the nature and extent of his interests to the board of directors at the earliest opportunity, whether or not the contract, transaction or arrangement or proposal therefor is otherwise subject to the approval of the board of directors.

If a director or his associate (as defined in the Rules Governing the Listing of Securities of the Hong Kong Stock Exchange Limited) have a material interest in any contract, transaction, arrangement or other matters that requires the approval of the board of directors, the relevant director shall not vote for the relevant matter at the meeting of the board of directors, and shall not be listed in the quorum of the meeting.

Unless the interested director, supervisor, senior management personnel discloses his interests in accordance with the preceding sub-paragraph of this Article and the contract, transaction or arrangement is approved by the board of directors at a meeting in which the director, supervisor, or senior management personnel is not counted as part of the quorum and refrains from voting, or from entering into a contract, transaction or arrangement in which that senior officer is materially interested is voidable at the instance of the Company except as against a bona fide party thereto who does not have notice of the breach of duty by the interested senior officer.

For the purposes of this Article, a director, supervisor, or senior management personnel of the Company is deemed to be interested in a contract, transaction or arrangement in which his associate is interested.

Article 159 Where a director, supervisor, senior management personnel of the Company gives to the board of directors a notice in writing stating that, by reason of the facts specified in the notice, he is interested in contracts, transactions or arrangements which may subsequently be made by the Company, that notice shall be deemed for the purposes of the preceding Article to be a sufficient disclosure of his interests, so far as the content stated in such notice is concerned, provided that such notice shall have been given before the date on which the question of entering into the relevant contract, transaction or arrangement is first taken into consideration by the Company.

Article 160 The Company shall not pay taxes for or on behalf of a director, supervisor, senior management personnel in any manner.

Article 161 The Company shall not directly or indirectly make a loan to or provide any guarantee in connection with the making of a loan to a director, supervisor, senior management personnel of the Company or its holding company or any of their respective associates.

The foregoing prohibition shall not apply to the following circumstances:

- (1) provision of a loan or guarantee for a loan by the Company to its subsidiary;
- (2) the provision by the Company of a loan or a guarantee in connection with the making of a loan or any other funds available to its directors, supervisors, senior management personnel to meet expenditure incurred or to be incurred by him for the purposes of the Company or for the purpose of enabling him to perform his duties properly, in accordance with the terms of a service contract approved by the shareholders in a general meeting;
- (3) if the ordinary course of business of the Company includes the lending of money or the giving of guarantees, the Company may make a loan to or provide a guarantee in connection with the making of a loan to a director, supervisor, senior management personnel or his associates in the ordinary course of its business on normal commercial terms.

Article 162 Any person who receives funds from a loan which has been made by the Company acting in breach of the preceding Article shall, irrespective of the terms of the loan, forthwith repay such funds.

Article 163 A guarantee for the repayment of a loan which has been provided by the Company acting in breach of Article 159(1) shall not be enforceable against the Company, save in respect of the following circumstances:

- (1) the guarantee was provided in connection with a loan which was made to an associate of a director, supervisor, and senior management personnel of the Company or the Company's holding company and the lender of such funds did not know of the relevant circumstances at the time of the making of the loan; or
- (2) the collateral which has been provided by the Company has already been lawfully disposed of by the lender to a bona fide purchaser.

Article 164 For the purposes of the foregoing provisions of this Chapter, a "guarantee" includes an undertaking or property provided to secure the obligor's performance of his obligations.

Article 165 In addition to any rights and remedies provided by the laws and administrative regulations, where a director, supervisor, and senior management personnel of the Company breaches the duties which he owes to the Company, the Company has a right:

- (1) to demand such a director, supervisor, or a senior management personnel to compensate it for losses sustained by the Company as a result of such breach;
- (2) to rescind any contract or transaction which has been entered into between the Company and such a director, supervisor, senior management personnel or between the Company and a third party (where such third party knows or should have known that such a director, supervisor, senior management personnel representing the Company has breached his duties owed to the Company);
- (3) to demand such a director, supervisor, or senior management personnel to surrender the gains made as result of the breach of his obligations;
- (4) to recover any monies which should have been received by the Company and which were received by such a director, supervisor, or a senior management personnel instead, including (without limitation to) commissions; and
- (5) to demand repayment of interest earned or which may have been earned by a director, supervisor, or a senior management personnel on money that should have been paid to the Company.

Article 166 If a director, supervisor, or a senior management personnel has violated the law, administrative rules, regulations of the competent authorities or the Articles of Association and its appendices in discharging his duties thereby causing losses to the Company, he shall be liable for compensation.

Article 167 The Company shall make written contract with a director or supervisor in relation to the rights and duties of the Company and the director/supervisor, emoluments and term of office of the director/supervisor, liability of the director/supervisor for breach of law, regulations and these Articles of Association and its

appendices and compensation for early termination of the contract, etc. The emoluments shall be approved in advance by the shareholders in a general meeting. The aforesaid emoluments include:

- (1) emoluments in respect of his service as director, supervisor, or senior management personnel of the Company;
- (2) emoluments in respect of his acting as a director, supervisor or a senior management personnel of any subsidiary of the Company;
- (3) emoluments in respect of the provision of other services in connection with the management of the affairs of the Company and any of its subsidiaries;
- (4) payment by way of compensation for loss of office, or as consideration for or in connection with his retirement from office.

No proceedings may be brought by a director or supervisor against the Company for anything due to him in respect of the matters mentioned in this Article except pursuant to the preceding contract.

Article 168 The contract concerning the emoluments between the Company and its directors or supervisors should provide that in the event that the Company is acquired, the Company's directors and supervisors shall, subject to the prior approval of shareholders in a general meeting, have the right to receive compensation or other payment in respect of his loss of office or retirement. For the purposes of this paragraph, the acquisition of the Company includes any of the following:

- (1) an offer made by any person to the general body of shareholders;
- (2) an offer made by any person with a view to the offeror becoming a "controlling shareholder" within the meaning of Article 54 hereof.

If the relevant director or supervisor does not comply with this Article, any sum so received by him shall belong to those persons who have sold their shares as a result of such offer. The expenses incurred in distributing such sum on a pro rata basis amongst such persons shall be borne by the relevant director or supervisor and shall not be paid out of such sum.

CHAPTER 15 FINANCIAL AND ACCOUNTING SYSTEMS, PROFIT DISTRIBUTION AND AUDITING

Article 169 The Company shall establish its financial and accounting systems in accordance with laws, administrative regulations and PRC enterprise accounting standards formulated by the finance regulatory department of the State Council.

Article 170 The accounting year of the Company shall adopt the calendar year, i.e. starting from the 1 January of every calendar year and to 31 December of every calendar year.

The Company shall adopt Renminbi as its denominated currency for booking and accounting purposes, the account books shall be recorded in Chinese.

At the end of each fiscal year, the Company shall prepare a financial report which shall be examined and verified in a manner prescribed by law.

Article 171 The board of directors of the Company shall place before the shareholders at every annual general meeting such financial reports which the relevant laws, administrative regulations and directives promulgated by competent regional and central governmental authorities require the Company to prepare. These reports shall be verified.

Article 172 The Company's financial reports shall be made available for shareholders' inspection at the Company

twenty (20) days before the date of every shareholders' annual general meeting. Each shareholder shall be entitled to have a copy of the financial reports referred to in this Chapter.

The Company shall deliver or send to each shareholder of Overseas-Listed Foreign-Invested Shares by prepaid mail at the address registered in the register of shareholders the said reports not later than twenty-one (21) days prior to the date of every annual general meeting of the shareholders.

Subject to the laws, regulations and listing rules of the listing place, the aforesaid reports may be issued or provided by way of the methods provided in Article 219 of the Articles of Association and its appendices, but need not be issued or provided by the abovementioned ways.

Article 173 The financial statements of the Company shall, in addition to being prepared in accordance with PRC enterprise accounting standards and regulations, be prepared in accordance with either international accounting standards, or that of the place outside the PRC where the Company's shares are listed. If there is any material difference between the financial statements prepared respectively in accordance with the two accounting standards, such difference shall be stated in the financial statements. In distributing its profits after tax, the lower of the two amounts shown in the financial statements shall be adopted.

Article 174 Any interim results or financial information published or disclosed by the Company must also be prepared and presented in accordance with PRC enterprise accounting standards and regulations, and also in accordance with either international accounting standards or that of the place overseas where the Company's shares are listed.

Article 175 The Company shall publish its financial reports 4 times in each fiscal year, that is, the quarterly report shall be submitted to branch of China Securities Supervisory Committee and stock exchanges and published within one month after the expiration of the first 3 months and first 9 months of each fiscal year; the biannual financial report shall be submitted to branch of China Securities Supervisory Committee and stock exchanges and published within 60 days after the expiration of the first 6 months of each fiscal year; and the annual financial report shall be published within one 120 days after the expiration of each fiscal year.

Article 176 The Company shall not keep accounts other than those required by law. Assets of the Company will not be deposited into any account opened in the name of an individual.

Article 177 When allocating the after-tax profits of the current year, the Company shall allocate (10) ten percent of its profit to the statutory common reserve fund. In the event that the accumulated statutory common reserve fund of the Company has reached more than (50) fifty percent of the registered capital of the Company, no allocation is needed.

In the event that the statutory common reserve fund of the Company is insufficient to make up the losses of the Company on the previous year, before allocating the statutory common reserve fund in accordance with the stipulations of the previous paragraph, the Company shall first make up the losses by using the profits of the current year.

After allocating the statutory common reserve fund from the after-tax profits of the Company, the Company can allocate the arbitrary common reserve fund according to the resolution of shareholders' general meeting.

The profits distributable to the shareholders, upon the approval in the shareholders' general meeting,, shall be distributed in accordance with the proportion of shares held by the shareholders.

Article 178 Before making-up the losses, allocating the common reserve funds, the Company shall not allocate the dividends or carry out other allocations by way of bonus, where distribution had been completed, the shareholders shall return the profits distributed in breach of the regulations to the Company.

The Company holding its own shares shall not participate in the profit allocation. **Article 179** Capital common reserve fund includes the following items:

- (1) premium on shares issued at a premium price;

- (2) any other income designated for the capital common reserve fund by the regulations of the finance regulatory department of the State Council.

Article 180 The common reserve fund of the Company shall be applied for compensating the losses, expansion of production and operation, or converting the common reserve fund into the capital of the Company. However, the common reserve fund of the Company shall not be used to offset loss of the Company.

When the statutory common reserve fund is converted to capital nature, the balance of the statutory common reserve fund may not fall below 25% of the Company's registered capital prior to such conversions.

- Article 181**
- (1) The Company should place emphasis on delivering reasonable return on investments to the investors. The Company shall pay due attention to the opinions of minority shareholders through various channels when allocating its profits. The profits distribution policy of the Company shall be durable and stable, taking into account of the long-term interests of the Company, the overall interests of all shareholders and the Company's sustainable development.
 - (2) 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.
 - (3) 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.
 - (4) The Company may adjust its profits distribution policy referred to in sub-paragraphs (2) and (3) of this Article in case of war, natural disasters and other force majeure, or where changes to the external environment of the Company result in material impact on the production and operation of the Company, or where there are significant changes in the Company's own operations or financial conditions, or where the Company's board of directors considers it necessary. Independent directors shall issue independent opinions on the adjustment of profits distribution policy whilst the board of directors shall discuss the rationality of such adjustment in detail and form a resolution which shall be submitted to shareholders' meeting for approval by special resolution. The convening of shareholders' meeting shall comply with regulatory provisions in the place where the Company's shares are listed.
 - (5) The management of the Company shall formulate the annual profits distribution plan and submit such plan to the board of directors for consideration. Independent directors shall issue independent opinions on such plan and the board of directors shall form a resolution which shall be submitted for approval by shareholders' meeting. If the conditions for the distribution of cash dividends have been satisfied and the Company does not propose a cash dividends distribution plan or does not propose such plan in compliance with the sub-paragraph (3) of this Article, independent directors shall issue independent opinions whilst the board of directors shall give specific explanation regarding such arrangement and form a resolution which shall be submitted to shareholders' meeting for approval and make relevant disclosures. The plan for half-yearly dividends distribution of the Company shall comply with Article 182 of the Articles of Association.

Article 182 The Company shall calculate, declare and pay dividends and other amounts which are payable to holders of A Shares in Renminbi. The Company shall calculate and declare dividends and other payments which are payable to holders of Overseas-Listed Foreign-Invested Shares in Renminbi, and shall pay such amounts in Hong Kong Dollars. As for the foreign currency needed by the Company for payment of cash dividends and other funds which are payable to the holders of the Overseas-Listed Foreign-Invested Shares, it shall be handled in accordance with any related national regulations on foreign exchange control.

Article 183 Unless otherwise provided by the relevant laws and administrative regulations, as regards dividends and other amounts payable in Hong Kong dollars, the applicable exchange rate shall be the average benchmark rate for the relevant foreign currency determined by the Peoples' Bank of China and announced by the State

Administration of Foreign Exchange during the week prior to the announcement of payment of dividend and other amounts.

Article 184 Unless the shareholders have approved otherwise in a general meeting, the board of directors may determine to make half-yearly dividends distribution. Unless otherwise provided by the relevant laws and administrative regulations, the amount of the half-yearly dividends distribution shall not exceed 50% of net profit for the half year interim period.

Article 185 In the event of allocating the dividends to shareholders of the Company, the payable taxes on the dividend incomes of the shareholders shall be withdrawn in accordance with the requirements of Taxation Law of China and in consideration of the allocated sum.

Article 186 The Company shall appoint receiving agents for holders of the Overseas-Listed Foreign-Invested Shares. Such receiving agents shall receive dividends which have been declared by the Company and all other amounts which the Company should pay to holders of Overseas-Listed Foreign-Invested Shares on such shareholders' behalf.

The receiving agents appointed by the Company shall meet the relevant requirements of the laws of the place at which the stock exchange on which the Company's shares are listed or the relevant regulations of such stock exchange.

The receiving agents appointed for holders of Overseas-Listed Foreign-Invested Shares listed in Hong Kong shall each be a company registered as a trust company under the Trustee Ordinance of Hong Kong.

Article 187 The Company adopts the system of internal auditing and hires professional auditors to undertake internal auditing of the Company's financial income and expenditure and economic activities.

Article 188 The Company's internal auditing system and duties of the auditors shall be implemented after they have been approved by the board of directors. The person in charge of audit shall be responsible to and report to the board of directors.

CHAPTER 16 APPOINTMENT OF ACCOUNTING FIRMS

Article 189 The Company shall appoint an independent firm of accountants which is qualified under the relevant regulations of the State to audit the Company's annual financial report and review other financial reports of the Company.

The first accounting firm of the Company may be appointed by the founders' meeting before the first annual shareholders' meeting. The term of appointment of the accounting firm shall terminate at the end of the first shareholders' annual meeting.

If the founders' meeting does not exercise its duties and powers according to the aforementioned provisions, then the board of directors shall exercise its duties and powers.

Article 190 The auditors appointed by the Company shall hold office from the conclusion of the annual general meeting of shareholders at which they were appointed until the conclusion of the next annual general meeting of shareholders.

Article 191 The auditors appointed by the Company shall enjoy the following rights:

- (1) a right to review to the books, records and vouchers of the Company at any time, the right to require the directors, supervisors, and senior management personnel of the Company to supply relevant information and explanations;

- (2) a right to require the Company to take all reasonable steps to obtain from its subsidiaries such information and explanation as are necessary for the discharge of its duties;
- (3) a right to attend shareholders' general meetings and to receive all notices of, and other communications relating to, any shareholders' general meeting which any shareholder is entitled to receive, and to speak at any shareholders' general meeting in relation to matters concerning its role as the Company's accounting firm.

Article 192 If there is a vacancy in the position of the accounting firm, the board of directors may appoint an accounting firm to fill such vacancy before the convening of the shareholders' general meeting. Any other accounting firm which has been appointed by the Company may continue to act during the period during which a vacancy arises.

Article 193 The shareholders in a general meeting may by ordinary resolution remove the accounting firm before the expiration of its term of office, irrespective of the provisions in the contract between the Company and the accounting firm. However, the right of the accounting firm in claiming for damages which arise from its removal shall not be affected thereby.

Article 194 The remuneration of an accounting firm or the manner in which such firm is to be remunerated shall be determined by the shareholders in a general meeting. The remuneration of an accounting firm appointed by the board of directors which is to fill the vacancy shall be determined by the board of directors.

Article 195 The Company's appointment, removal or non-reappointment of an accounting firm shall be resolved by the shareholders in a general meeting. Such resolution shall be filed with the securities authority of the State Council.

Where a resolution at a general meeting of shareholders is passed to appoint an accounting firm other than an incumbent accounting firm, to fill a casual vacancy in the office of the accounting firm, to reappoint an accounting firm who was appointed by the board of directors to fill a casual vacancy or to remove an accounting firm before expiry of its term of office, the following provisions shall apply:

- (1) A copy of the appointment or removal proposal shall be sent (before issue of the notice of meeting) to the firm proposed to be appointed or proposing to leave its post or the firm which has left its post in the relevant fiscal year. Reference as leaving herein includes leaving by removal, resignation and retirement.
- (2) If the accounting firm leaving its post makes representations in writing and requests the Company to give the shareholders notice of such representations, the Company shall (unless the representations have been received too late) take the following measures:
 - (i) in any notice of the resolution given to shareholders, state the fact of the representations having been made by the accounting firm leaving its post; and
 - (ii) attach a copy of the representations to the notice and deliver it to the shareholders in the manner stipulated in the Company's Articles of Association and its appendices.
- (3) If the Company fails to circulate the accounting firm's representations in the manner set out in subparagraph (2) above, such accounting firm may (in addition to its right to be heard) require that the representations be read out at the meeting.
- (4) An auditor which is retired from its office shall be entitled to attend the following shareholders' general meetings:
 - (i) the general meeting at which its term of office would otherwise have expired;
 - (ii) the general meeting at which it is proposed to fill the vacancy caused by its removal; and

(iii) the general meeting which convened as a result of its voluntary resignation:

The leaving accounting firm has the right to receive all notices of, and other communications relating to, any such meeting, and to speak at any such meeting which it attends on any part of the business of the meeting which concerns it as the former accounting firm of the Company.

Article 196 Prior notice should be given to the accounting firm 30 days in advance if the Company decides to remove such accounting firm or not to renew the appointment thereof. Such accounting firm shall be entitled to make representations at the shareholders' general meeting. Where the accounting firm resigns from its position as the Company's auditors, it shall make clear to the shareholders in a general meeting whether there has been any impropriety on the part of the Company.

An accounting firm may resign its office by depositing at the Company's domicile a resignation notice which shall become effective on the date of such deposit or on such later date as may be stipulated in such notice. Such notice shall contain the following statements:

(1) a statement to the effect that there are no circumstances connected with its resignation which it considers should be brought to the notice of the shareholders or creditors of the Company; or

(2) a statement of any such circumstances.

Where a notice is deposited under the preceding sub-paragraph, the Company shall within fourteen (14) days send a copy of the notice to the relevant governing authority. If the notice contains a statement under the preceding sub-paragraph (2), a copy of such statement shall be placed at the Company for shareholders' inspection. The Company should also send a copy of such statement by prepaid mail to every shareholder of Overseas-Listed Foreign Shares at the address registered in the register of shareholders.

Subject to the laws, regulations and listing rules of the listing place, the aforesaid copies may be issued or provided by way of the methods provided in Article 219 of the Articles of Association, but need not be issued or provided by the abovementioned ways.

Where the accounting firm's notice of resignation contains a statement in respect of the above, it may require the board of directors to convene a shareholders' extraordinary general meeting for the purpose of receiving an explanation of the circumstances connected with its resignation.

CHAPTER 17 EMPLOYEES

Article 197 The Company perseveres in a human-centered principle and integrates the corporate development with a perpetual intention to return to shareholders, contribute to the society, and benefit the employees. In compliance with the State's laws and regulations, the Company shall establish a healthy and complete employee's management system and effectively develop and utilize human resources.

Article 198 Based on its business needs subject to laws, regulations and corporate rules, the Company shall employ, dismiss or terminate employees labor contracts in its discretion.

Article 199 Pursuant to the State's regulations and the Articles of Association and its appendices, the Company shall establish the salary, insurance, benefits systems. In light of the economic and social development and business operations of the Company, the Company shall make endeavors to enhance the overall benefits for its employees, and improve their working conditions.

Article 200 Pursuant to the State's laws and regulations, the Company shall develop an employees training system based on its business development and employees needs, to best pave the path for employees talent and professional development.

CHAPTER 18 THE UNION

Article 201 The employees of the Company shall duly organize the Union, develop its event programs, and hence, protect the employees' legitimate rights. The Company shall provide prerequisites for the Union to carry out its events.

CHAPTER 19 MERGER AND DIVISION

Article 202 The Company may carry out mergers or division in accordance with law.

In the case of merger or division of the Company, the board of directors shall provide the proposal, and, upon approval in accordance with the procedures under the Articles of Association and its appendices, deal with the relevant approval procedures pursuant to laws. The board of directors of the Company shall take necessary measures to protect the legitimate interests of the shareholders who object to the plan of merger or division. A shareholder who objects to the plan of merger or division shall have the right to demand the Company or the shareholders who consent to the plan of merger or division to acquire such dissenting shareholders' shareholding at a fair price.

The contents of the resolution of merger or division of the Company shall constitute special documents which shall be available for inspection by the shareholders of the Company. Such special documents shall be sent by mail to holders of Overseas-Listed Foreign-Invested Shares.

Subject to the laws, regulations and listing rules of the listing place, the aforesaid documents may be issued or provided by way of the methods provided in Article 219 of the Articles of Association, but need not be issued or provided by the abovementioned ways.

Article 203 The merger of the Company may take the form of either merger by absorption or merger by the establishment of a new company.

The merger means that one company takes over other one and the company being taken over shall be dissolved. The consolidation means that at least two companies are merged into one and the existing companies shall be dissolved after their merger.

In the event of a merger, the merging parties shall execute a merger agreement and prepare a balance sheet and an inventory of assets. The Company shall notify its creditors within ten (10) days from the date of the Company's merger resolution which is passed and shall publish a public notice in a newspaper designed by the regulatory institutions of the place where the Company's shares are listed within thirty (30) days of the date of the Company's merger resolution. The creditor may, within 30 days as of its acknowledgement or within 45 days as of the date of announcement, ask the Company for settling of its debt or providing relevant guarantee.

Article 204 Where there is a division of the Company, its assets shall be divided up accordingly.

In the event of division of the Company, the parties to such division shall execute a division agreement and prepare a balance sheet and an inventory of assets. The Company shall notify its creditors within ten (10) days from the date of the Company's division resolution which is passed and shall publish a public notice in a newspaper designed by the regulatory institutions of the place where the Company's shares are listed within thirty (30) days of the date of the Company's division resolution.

Article 205 After the merger, the rights against debtors and the indebtedness of each of the parties to the merger shall be inherited by the company which survives the merger or the newly established company.

Debts of the Company prior to division shall be severally and jointly assumed by the companies which exist after the division, provided that otherwise written agreements has been reached between the Company and the creditor upon the insolvency of debts.

Article 206 The Company shall, in accordance with law, apply for change in its registration with the companies

registration authority where a change in any item in its registration arises as a result of any merger or division. Where the Company is dissolved, the Company shall apply for cancellation of its registration in accordance with law. Where a new company is established, the Company shall apply for registration thereof in accordance with law.

CHAPTER 20 DISSOLUTION AND LIQUIDATION

Article 207 The Company shall be dissolved and liquidated upon the occurrence of any of the following events:

- (1) a resolution regarding the dissolution is passed by shareholders at a general meeting;
- (2) dissolution is necessary due to a merger or division of the Company;
- (3) the Company is legally declared insolvent due to its failure to repay debts as they become due; and
- (4) business license is revoked lawfully and its operation is ceased or canceled by the relevant authorities;
- (5) The company meets with great difficulties and its continuation may incur great loss to the interest of the shareholders, it cannot be resolved by other means and the shareholders holding more than 10% of the voting share may petition to the people's court for its dissolution.

Article 208 Where the Company is dissolved under sub-paragraph (1), (4) or (5) of the preceding paragraph, a liquidation committee shall be set up within fifteen (15) days thereafter and commence the liquidation proceedings, and the liquidation committee of the Company shall be composed of directors or any other persons determined by the shareholders' general meeting. Where a liquidation committee is not established according to schedule, the creditor may apply to the People's Court to organize the relevant personnel to establish a liquidation committee to proceed the liquidation.

Where the Company is dissolved under sub-paragraph (3) of the preceding Article, the People's Court shall in accordance with the provisions of relevant laws organize the shareholders, relevant organizations and relevant professional personnel to establish a liquidation committee to proceed the liquidation.

Article 209 Where the board of directors proposes to liquidate the Company for any reason other than the Company's declaration of its own insolvency, the board shall include a statement in its notice convening a shareholders' general meeting to consider the proposal to the effect that, after making full inquiry into the affairs of the Company, the board of directors is of the opinion that the Company will be able to pay its debts in full within twelve (12) months from the commencement of the liquidation.

Upon the passing of the resolution by the shareholders in a general meeting in relation to the liquidation of the Company, all duties and powers of the board of directors shall cease.

The liquidation committee shall act in accordance with the instructions of the shareholders' general meeting to make a report at least once every year to the shareholders' general meeting on the committee's income and expenses, the business of the Company and the progress of the liquidation; and to present a final report to the shareholders' general meeting on completion of the liquidation.

Article 210 The liquidation committee shall, within ten (10) days of its establishment, send notices to creditors and shall, within sixty (60) days of its establishment, publish a public announcement in a newspaper designed by the regulatory institutions of the place where the Company's shares are listed. The creditors who have received the notice shall, within 30 days as of its acknowledgement of the receipt, and the creditors who fail to receive the notice shall within 45 days as of the date when the announcement was made, declare their creditor's right to the liquidation team.

The creditor who declares the creditor's right shall state the relevant matter in relation to the debt, and

provide evidentiary materials. The liquidation committee shall register the creditors' rights.

During liquidation period, the liquidation committee shall not settle any debt with the creditor.

Article 211 During the liquidation period, the liquidation committee shall exercise the following functions and powers:

- (1) to categorise the Company's assets and prepare a balance sheet and an inventory of assets respectively;
- (2) to notify the creditors or to publish public announcements;
- (3) to dispose of and liquidate any unfinished businesses of the Company;
- (4) to pay all outstanding taxes and taxes incurred during the liquidation proceedings;
- (5) to settle claims and debts;
- (6) to deal with the surplus assets remaining after repayment by the Company of its debts;
- (7) to represent the Company in any civil proceedings.

Article 212 After it has categorized the Company's assets and after it has prepared the balance sheet and an inventory of assets, the liquidation committee shall formulate a liquidation plan and present it to a shareholders' general meeting or to the people's court for confirmation.

The remaining asset shall, after having paid the liquidation expense, salary of the staff, social insurance expense and the legal premium, the arrears and liquidated the Company's debt, be distributed in accordance with the provisions of the fourth paragraph of this article..

The Company may, during the liquidation period, remain, but shall not carry out activities irrelevant to the liquidation. Where the Company's assets have been cleaned off without abiding by the preceding provisions, it shall be allocated to the shareholders.

Any surplus assets of the Company remaining after its debts have been repaid in accordance with the provisions of the second paragraph of this article shall be distributed to its shareholders according to the class of shares and the proportion of shares held:

- (1) In case of the preferred shares, the allocation shall be first given to the holders of the preferred shares in accordance with the face value of the preferred shares; if it is insufficient to repay the preferred shares, the allocation shall be carried out in accordance with the proportions of the preferred shares held by them respectively;
- (2) The allocation shall be carried out in accordance with proportions of shares held by the holders of ordinary shares.

Article 213 Upon completion of the categorization of the Company's assets and preparation a balance sheet and an inventory of assets in connection with the liquidation of the Company, the liquidation committee discovers that the Company's assets are insufficient to repay the Company's debts in full, the liquidation committee shall immediately apply to the People's Court in accordance with laws for a declaration of insolvency.

After a Company is declared insolvent by a ruling of the People's Court, the liquidation committee shall transfer all matters arising from the liquidation to the People's Court.

Where a company is declared bankrupt according to law, it shall carry out bankruptcy liquidation according to the legal provisions concerning bankruptcy liquidation.

Article 214 Following the completion of the liquidation, the liquidation committee shall prepare a liquidation report, a statement of income and expenses received and made during the liquidation period and a financial report, which shall be verified by a Chinese registered accountant and submitted to the shareholders' general

meeting or the people's court for confirmation.

The liquidation committee shall, within thirty (30) days after the confirmation of the liquidation report by the shareholders' general meeting or the people's court, submit the documents referred to in the preceding paragraph to the companies registration authority and apply for cancellation of registration of the Company, and publish a public announcement relating to the termination of the Company.

Article 215 The member of the liquidation team shall be faithful to their duty and fulfill the liquidation obligation in accordance with the law.

The member of the liquidation team shall not abuse their authority to accept bribery or other illegal income, not infringe the Company's assets.

Where the member of the liquidation team causes loss to the Company intentionally or because of gross negligence, he (she) shall bear the relevant compensation liability.

CHAPTER 21 PROCEDURES FOR AMENDMENT OF THE COMPANY'S ARTICLES OF ASSOCIATION

Article 216 The Company may amend its Articles of Association and its appendices in accordance with the requirements of laws, administrative regulations and the Articles of Association and its appendices.

Article 217 The Company shall amend these Articles of Association and its appendices on the occurrence of any of the following events:

- (1) the Company Law or the relevant laws or administrative regulations are amended and the Articles of Association and its appendices are in conflict with the amended laws or administrative regulations;
- (2) there is change to the Company which makes it not consistent with these Articles of Association and its appendices;
- (3) it has been approved by the shareholders in a general meeting to amend these Articles of Association and its appendices.

Article 218 Any amendment of the Articles of Association and its appendices shall be made in the following manner:

- (1) The Board of Directors draw up a proposal for amendment of the Article of Association in accordance with these Articles of Association and its appendices;
- (2) The foregoing proposal shall be furnished to the shareholders in writing and a shareholders' meeting shall be convened;
- (3) The amendments shall be approved by a special resolution in a shareholders' general meeting.

The board of directors shall amend the Articles of Association and its appendices pursuant to the resolution of shareholders in a general meeting for amendment of these Articles of Association and its appendices and the approval opinions of the competent authority.

Amendment of the Articles of Association and its appendices involving the contents of the Mandatory Provisions shall become effective upon receipt of approvals from the companies approving department authorized by the State Council.

Article 219 If there is any change relating to the registered particulars of the Company, application shall be made for change in registration in accordance with law. If the amendment to the Articles of Association and its appendices is a matter which is required by the relevant laws and regulations to be disclosed, an

announcement shall be made in accordance with the provisions of those laws and regulations.

CHAPTER 22 NOTICE

Article 220 Unless otherwise provided by the Articles and its appendices, subject to laws, regulations and listing rules of the place where the Company's shares are listed, notices of the Company shall be issued in any of the following manner: (1) by hand; (2) by post; (3) by public announcement; (4) any other manner as recognized by securities regulatory institutions at the place where the Company is listed or as provided in the Articles of Association.

If a notice of the Company is issued by public announcement, it shall be deemed received by the relevant officers once announced.

Unless otherwise provided in the Articles of Association and the appendices, subject to laws, regulations and listing rules of the place where the Company's shares are listed, any requirement under the Articles of Association and its appendices in relation to the delivery, e-mailing, mailing, distribution, announcement or the provision of any corporate communications, may be sent out or provided via the Company's website or through electronic method.

'Corporate Communications' refers to any documents issued or to be issued by the Company for the information or action of holders of any of its securities, including but not limited to:

- (1) the directors' report, its annual accounts together with a copy of the auditors' report and, where applicable, its summary financial report;
- (2) the interim report and, where applicable, its summary interim report;
- (3) the notice of meeting;
- (4) listing documents;
- (5) a circular; and
- (6) a proxy form.

Article 221 If a notice of the Company is issued by hand, the date when the recipient signed or stamped to acknowledge receipt of the same shall be regarded as the date of service of the notice.

If a notice of the Company is issued by public announcement, the date of the first publication of the announcement shall be regarded as the date of service of the announcement. If sent by way of

announcement via the corporate website, the sending date is deemed as the delivery date.

If the notice of the Company is sent out in electronic form, the sending date is deemed as the delivery date.

Subject to the laws, regulations and listing rules of the listing places, if a notice of the Company is sent by way of announcement via the website, the delivery date shall be regarded as follows:

- (1) on the date when the notice in accordance with the laws, regulations and listing rules of the listing places is sent to the intended recipient;
- (2) if later, the date on which the corporate communication first appears on the website after that notice is sent.

All notices which are to be sent by mail shall be clearly addressed, postage pre-paid, and shall be put into envelopes before being posted by mail. Such letters of notice shall be deemed to have been received by

shareholders on the third working day since it is left with the post office.

Article 222 If a notice of meeting is accidentally omitted to be sent to any person who is entitled to receive the same or that person has not received such a notice of meeting, it will not cause the meeting and any resolution made therein to be void.

CHAPTER 23 RESOLUTION OF DISPUTES

Article 223 The Company shall abide by the following principles for dispute resolution:

- (1) Whenever any disputes or claims arise between: holders of the Overseas-Listed Foreign-Invested Shares and the Company; holders of the Overseas-Listed Foreign-Invested Shares and the Company's, directors, supervisors, senior management personnel; or holders of the Overseas-Listed Foreign-Invested Shares and holders of A Shares, in respect of any disputes or claims in relation to the affairs of the Company arising as a result of any rights or obligations arising from the Articles of Association and its appendices, the Company Law or other relevant laws and administrative regulations, such disputes or claims shall be referred by the relevant parties to arbitration.

Where a dispute or claim of rights referred to in the preceding paragraph is referred to arbitration, the entire claim or dispute must be referred to arbitration, and all persons who have a cause of action based on the same facts giving rise to the dispute or claim or whose participation is necessary for the resolution of such dispute or claim, shall, where such person is the Company or the Company's shareholders, directors, supervisors, or senior management personnel, comply with the decisions made in the arbitration. Disputes in respect of the definition of shareholders and disputes in relation to the register of shareholders need not be resolved by arbitration.

- (2) A claimant may elect for arbitration to be carried out at either the China International Economic and Trade Arbitration Commission in accordance with its Rules or the Hong Kong International Arbitration Center in accordance with its Securities Arbitration Rules. Once a claimant refers a dispute or claim to arbitration, the other party must submit to the arbitral body elected by the claimant.

If a claimant elects for arbitration to be carried out at Hong Kong International Arbitration Center, any party to the dispute or claim may apply for a hearing to take place in Shenzhen in accordance with the Securities Arbitration Rules of the Hong Kong International Arbitration Center.

- (3) If any disputes or claims of rights are settled by way of arbitration in accordance with sub-paragraph (1) of this Article, the laws of the PRC shall apply, save as otherwise provided in the laws and administrative regulations.

- (4) The judgement of an arbitral body shall be final and conclusive and binding on all parties. **CHAPTER 24**

SUPPLEMENTARY

Article 224 The Articles of Association and its appendices are written in Chinese.. Where versions in other languages or different versions have different interpretations or meanings, the latest verified Chinese version registered in the State Administration for Industry & Commerce shall prevail.

Article 225 The expressions of "above", "within", "below" shall include the figures mentioned whilst the expressions of "short of", "without" and "less than" shall not include the figures mentioned.

Article 226 The right to interpret the Articles of Association vests with the board of directors of the Company, and the right to revise the Articles of Association vests with shareholders' general meeting.

Article 227 If the Articles of Association are in conflict with the laws, administrative regulations or provisions of other

regulatory documents or regulatory provisions in the place where the Company's shares is listed promulgated from time to time, the laws, administrative regulations and provisions of other regulatory documents or regulatory provisions in the place where the Company's shares is listed shall prevail.

Article 228 In the Articles of Association and its appendices, references to “accounting firm” shall have the same meaning as “auditors”.

In the Articles of Association and its appendices, references to “president” shall have the same meaning as “manager” in the Company Law.

CONTINUING CONNECTED TRANSACTION SIXTH SUPPLEMENTAL AGREEMENT

This Agreement is made as of August 27, 2021, in Beijing by and between China Petrochemical Corporation (“**Party A**”), a state-owned enterprise organized and validly existing under the Chinese laws and duly authorized to represent its subsidiaries and associates (excluding Party B and subsidiaries of Party B, except for those subsidiaries of Party B in which Party A and its subsidiaries and associates holds 10% or more equity interests directly), and China Petroleum & Chemical Corporation (“**Party B**”), a company limited by shares organized and validly existing under Chinese laws and duly authorized to represent its subsidiaries and associates.

WHEREAS:

1. Party A is the controlling shareholder of Party B, and the Parties have entered into certain Mutual Supply Agreement, Land Use Rights Lease Agreement, Community Services Agreement, SPI Fund Document, Property Lease Agreement, Intellectual Property License Agreements, and Products Consignment Agreement dated June 3, 2000 (collectively, the “**Continuing Connected Transaction Agreements**”).
 2. The Parties have entered into the Supplementary Agreement on Connected Transactions dated March 31, 2006, whereby certain terms and conditions of the Continuing Connected Transaction Agreements are amended.
 3. The Parties have entered into the Continuing Connected Transactions Second Supplemental Agreement dated August 21, 2009, whereby certain terms and conditions of the Continuing Connected Transaction Agreements are amended.
 4. The Parties have entered into the Continuing Connected Transactions Third Supplemental Agreement dated August 24, 2012, whereby certain terms and conditions of the Continuing Connected Transaction Agreements are amended.
 5. The Parties have entered into the Continuing Connected Transactions Fourth Supplemental Agreement dated August 26, 2015, whereby certain terms and conditions of the Continuing Connected Transaction Agreements are amended.
 6. The Parties have entered into this Continuing Connected Transactions Fifth Supplemental Agreement dated August 24, 2018, whereby certain terms and conditions of the Continuing Connected Transaction Agreements are amended.
 7. The Parties have entered into this Continuing Connected Transactions Sixth Supplemental Agreement dated August 27, 2021, whereby certain terms and
-

conditions of the Continuing Connected Transaction Agreements are amended.

NOW, THEREFORE, the Parties agree as follows:

1. Definitions

Unless otherwise defined in its context, in this Agreement (including the recitals):

“Associates”	has the meaning ascribed to it in the HK Listing Rules;
“HK Listing Rules”	means the Rules Governing the Listing of Securities on the Stock Exchange;
“Stock Exchange”	means The Stock Exchange of Hong Kong Limited;
“Mutual Supply Agreement”	means the mutual supply agreement dated June 3, 2000 and amended thereafter by the Parties regarding the mutual provision of products, manufacturing and project construction services (including public works);
“Land Use Rights Lease Agreement”	means the land use rights lease agreement dated June 3, 2000 and amended thereafter by the Parties regarding the lease of certain land use rights;
“Community Services Agreement”	means the community services agreement dated June 3, 2000 and amended thereafter by the Parties regarding the provision of certain cultural, educational, health care and community services (the agreement was further revised as Cultural, Educational, Health Care and Auxiliary Service Agreement, which shall expire on December 31, 2021 and shall not be renewed upon expiry);

“SPI Fund Document”	means the document jointly issued in 1997 by the Ministry of Finance and Party A (as a ministerial level enterprise before its restructuring in 1998 and including its associates) regarding payment of insurance premium by Party B to Party A (Cai Gong Zi [1997] No. 268);
“Properties Lease Agreement”	means the properties lease agreement dated June 3, 2000 and amended thereafter by the Parties regarding the lease of certain properties;
“Intellectual Property License Agreements”	means the Trademarks License Agreement, the Computer Software License Agreement, and the Proprietary Technology License Agreement;
“Products Consignment Agreement”	means the products consignment agreement dated June 3, 2000 and amended and terminated thereafter by the Parties; and
“Connected Subsidiaries”	means the subsidiaries of Party B in which Party A and its associates hold at least 10% of the direct interest (excluding any indirect interest in the subsidiaries of Party B held by Party A and its associates through Party B), and any subsidiaries of such subsidiaries.

2. Conditions and Effective Date

Subject to Sections 3.4 and 4.2 hereof, this Agreement shall be effective as of the date on which the Parties have caused this Agreement to be executed by their respective representatives and stamped with their respective corporate seals.

3. Supplement to Mutual Supply Agreement and Effective Date

- 3.1 It is agreed by the Parties that as of January 1, 2022, the products and services provided by Party B to Party A under Section 1.1 of Mutual Supply Agreement

shall be amended as follows:

(1) Crude oil, natural gas, refined and petrochemical products and by-products, semi-finished products, coal, steel, water, electricity, gas, heat, measurements, quality inspection, other related or similar products and services, and guarantee;

(2) Financial services including entrusted loan to the Connected Subsidiaries.

3.2 It is agreed by the Parties that as of January 1, 2022, the products and services provided by Party A to Party B under Section 1.2 of Mutual Supply Agreement shall be amended as follows:

(1) Supply: fresh water, chemical water, recycled water, industrial air, hydrogen, nitrogen, electricity, steam, heat supply, materials and equipment parts, chemical raw materials, precious metals, the sourcing of crude oil and natural gas (including crude oil and natural gas from overseas), and other related or similar products and services;

(2) Storage and transportation: railway, vehicular transport, water transport, pipeline transmission, loading and unloading, wharves, warehousing and other related or similar services;

(3) Ancillary production: well drilling, well surveying, well logging, exploration and development testing, technological research, communication, fire control, security guards, public security, chemical examination, material examination, information, pressure containers and pipelines inspection, metering inspection, computer services, equipment research, airports, feasibility study, design, construction, installation, production of electromechanical instruments, inspection and maintenance of equipment devices and electrical equipment meters, projects supervision, environmental protection, repair and maintenance of roads, bridges and culverts and slope protection, flood control and other related or similar services;

(4) Training and auxiliary services: staff training, culture and sports, newspapers and magazines, radio and TV, office and factory property management, canteens, dormitories, commuting, reemployment service centers and other related or similar services;

(5) Others: deposit and loan service, loan guarantee service, agent services in the collection and payment of administrative services fees, labor services, asset leasing, insurance, insurance agency service, entrusted loans, foreign exchange services, settlement services and other intermediary services, sharing services including finance, human resources, business travelling and information technology etc., and other related or similar services.

3.3 It is agreed by the Parties that, as of January 1, 2022, the term under Section 6.4 of Mutual Supply Agreement shall be amended to until December 31, 2024.

3.4 Section 3.1, 3.2 and 3.3 shall not become effective until Party B obtains approval from its independent shareholders for the transactions contemplated under the Mutual Supply Agreement pursuant to applicable regulatory rules. Failure to obtain such approval by December 31, 2021 shall make Section 3.1, 3.2 and 3.3 become null and void automatically as of December 31, 2021 or any earlier date on which such approval fails to be obtained, and the Parties' liabilities under this Article 3 shall be released accordingly (without effect upon any liability of either Party accrued prior to such termination).

4. **Supplement to Properties Lease Agreement and Effective Date**

4.1 It is agreed by the Parties that as of January 1, 2022, the Properties Lease Agreement shall be amended as follows:

(1) A new paragraph is supplemented as the second paragraph under Section 2: the Parties can, based on the needs for production and business operation, increase the leasing scope and area of the properties by Party B in the agreements.

(2) The term under Section 3.1 shall be amended to until December 31, 2024.

4.2 Section 4.1 shall not become effective until Party B obtains approval from its independent shareholders for the transactions contemplated under the Properties Lease Agreement pursuant to applicable regulatory rules. Failure to obtain such approval by December 31, 2021 shall make Section 4.1 become null and void automatically as of December 31, 2021 or any earlier date on which such approval fails to be obtained, and the Parties' liabilities under this Article 4 shall be released accordingly (without effect upon any liability of either Party accrued prior to such termination).

5. **Representations and Warranties**

5.1 Party A represents and warrants to Party B that:

5.1.1 Party A is an limited liability company duly organized with valid business license.

5.1.2 Party A has been and is in compliance with laws and regulations in connection with its business operations, and has not engaged in any activities that fall beyond its legitimate business scope.

5.1.3 Party A has obtained all government approvals, if applicable, and corporate authorities necessary for its authorized representative to sign this Agreement, and is bound by this Agreement upon its signature.

5.1.4 Execution, delivery and performance of this Agreement is in no breach of any agreement to which Party A is a party or the articles of association of Party A.

5.2 Party B represents and warrants to Party A that:

5.2.1 Party B is a company limited by shares duly organized with valid business license.

5.2.2 Party B has been and is in compliance with laws and regulations in connection with its business operations, and has not engaged in any activities that fall beyond its legitimate business scope.

5.2.3 Except for the approval of independent shareholders provided hereunder, Party B has obtained all corporate authorities necessary for its authorized representative to sign this Agreement, and is bound by this Agreement upon its signature.

5.2.4 Execution, delivery and performance of this Agreement is in no breach of any agreement to which Party B is a party or the articles of association of Party B.

6. **Governing Law and Dispute Resolution**

6.1 This Agreement shall be governed by and construed in accordance with the laws of the People's Republic of China.

6.2 Any dispute arising from or in connection with Agreement shall be resolved by the Parties through negotiations. If negotiations fail, any Party may submit such dispute to Beijing Arbitration Commission for arbitration in accordance with its rules then in effect at the time of application for arbitration. The arbitral award shall be final and binding upon the Parties.

(No text below)

(Signature page)

China Petrochemical Corporation (seal)

Signature: /s/ ZHANG Shaofeng

Title: Authorized representative

Date: August 27, 2021

China Petroleum & Chemical Corporation (seal)

Signature: /s/ MA Yongsheng

Title: Authorized representative

Date: August 27, 2021

LIST OF SUBSIDIARIES

A list of China Petroleum & Chemical Corporation's principal subsidiaries is provided in Note 39 to the consolidated financial statements included in this annual report following Item 19.

Certification by Principal Executive Officer
Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as amended

I, Ma Yongsheng, certify that:

1. I have reviewed this annual report on Form 20-F of China Petroleum & Chemical Corporation (the “Company”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The company’s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the Company’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company’s internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting; and
5. The Company’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company’s auditors and the audit committee of company’s board of directors (or persons performing the equivalent function):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting.

Date: April 28, 2022

By: /s/ Ma Yongsheng
Ma Yongsheng, Chairman

Certification by Principal Executive Officer
Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as amended

I, Yu Baocai, certify that:

1. I have reviewed this annual report on Form 20-F of China Petroleum & Chemical Corporation (the “Company”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The company’s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the Company’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company’s internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting; and
5. The Company’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company’s auditors and the audit committee of company’s board of directors (or persons performing the equivalent function):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting.

Date: April 28, 2022

By: /s/ Yu Baocai
Yu Baocai, President

Certification by Principal Financial Officer
Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as amended

I, Shou Donghua, certify that:

1. I have reviewed this annual report on Form 20-F of China Petroleum & Chemical Corporation (the “Company”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company’s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the Company’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company’s internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting; and
5. The Company’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company’s auditors and the audit committee of company’s board of directors (or persons performing the equivalent function):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting.

Date: April 28, 2022

By: /s/ Shou Donghua
Shou Donghua, Chief Financial Officer

**Certification of CEO and CFO Pursuant to
18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
and Pursuant to Rule 13a-14(b)
under the Securities Exchange Act of 1934, as amended (Exchange Act)**

In connection with the Annual Report on Form 20-F of China Petroleum & Chemical Corporation (the “Company”) for the year ended December 31, 2021 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Ma Yongsheng, as Chairman of the Board of the Company, Yu Baocai, as President of the Company, and Shou Donghua, as Chief Financial Officer of the Company, each hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, and Rule 13a-14(b) under the Exchange Act, that, to the best of his knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Exchange Act; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Ma Yongsheng

Name: Ma Yongsheng

Title: Chairman

Date: April 28, 2022

By: /s/ Yu Baocai

Name: Yu Baocai

Title: President

Date: April 28, 2022

By: /s/ Shou Donghua

Name: Shou Donghua

Title: Chief Financial Officer

Date: April 28, 2022

This certification accompanies the Report pursuant to Rule 13a-14(b) under the Exchange Act and 18 U.S.C. Section 1350 and shall not be deemed “filed” by the Company for purposes of §18 of the Exchange Act, or otherwise subject to the liability of that section.
