

Energy In China 2017 & 2018

KERUI OILFIELD SERVICE GROUP

Lubin

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1. Growth speed of energy consumption in China rises again, clearly embodies the clean transition

- In 2017, the economy of China is getting solid with a positive trend, and the growth of energy consumption has risen again.
- Total energy consumption of China is 4.51 billion tons of standard coal, growth speed is 3.5%.
- The growth speed of clean energy consumption is significantly faster than coal and oil.

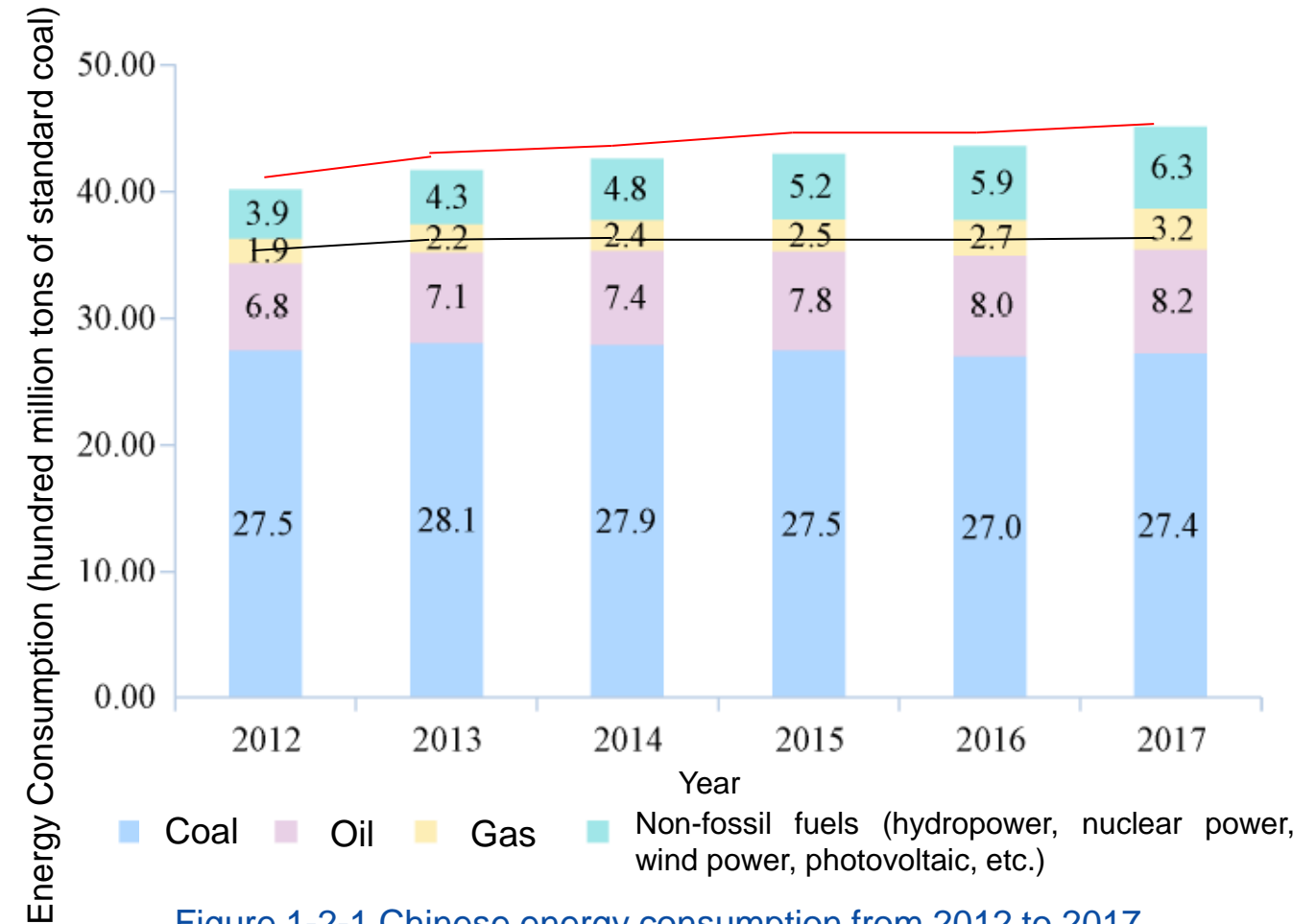


Figure 1-2-1 Chinese energy consumption from 2012 to 2017

2. Growth speed of apparent consumption rises again, low-speed growth of refined oil consumption maintains

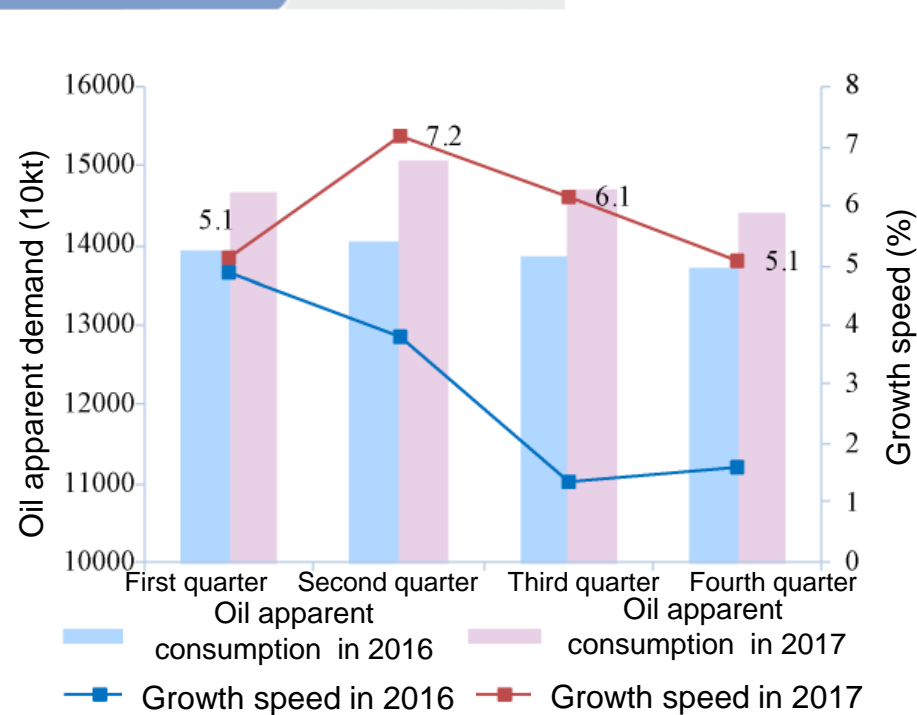


Figure 4-1-3 Quarterly oil consumption and growth rate of China in 2017

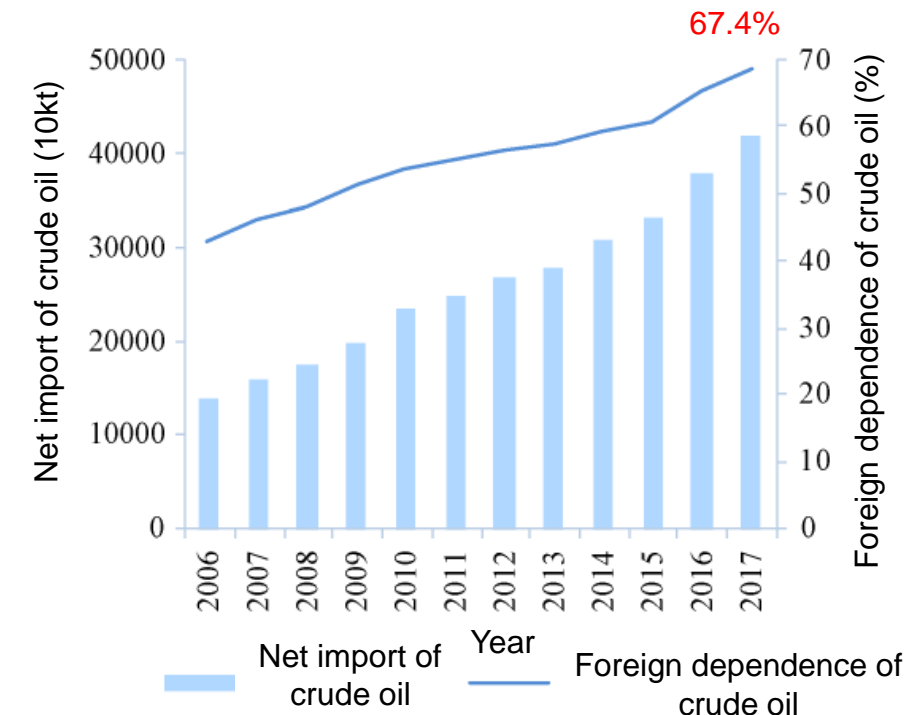


Figure 4-1-2 Net import of crude oil and foreign dependence of China from 2016 to 2017

In 2017, China surpassed the United States and became the world's largest importer of crude oil for the first time. Its dependence on foreign oil rises to 67.4%. In 2018, it is estimated that petroleum apparent demand in China will exceed 600 million tons for the first time, reaching 615 million tons, an increase of 4.6% over the same period of last year and its foreign dependence will approach 70%.

3. Unexpected growth in natural gas consumption, supply tension triggered the development of the industry thinking

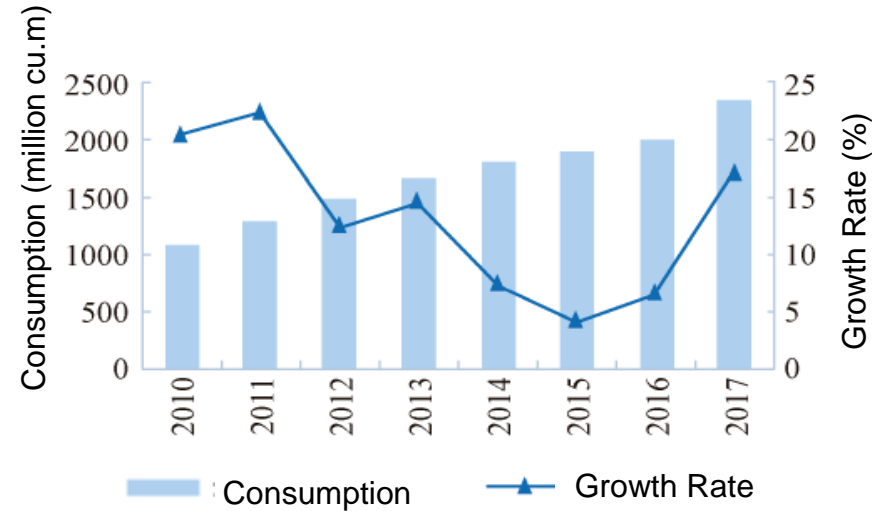


Figure 6-1-1 Chinese natural gas consumption
Source: 2010-2016 data come from National Bureau of Statistics

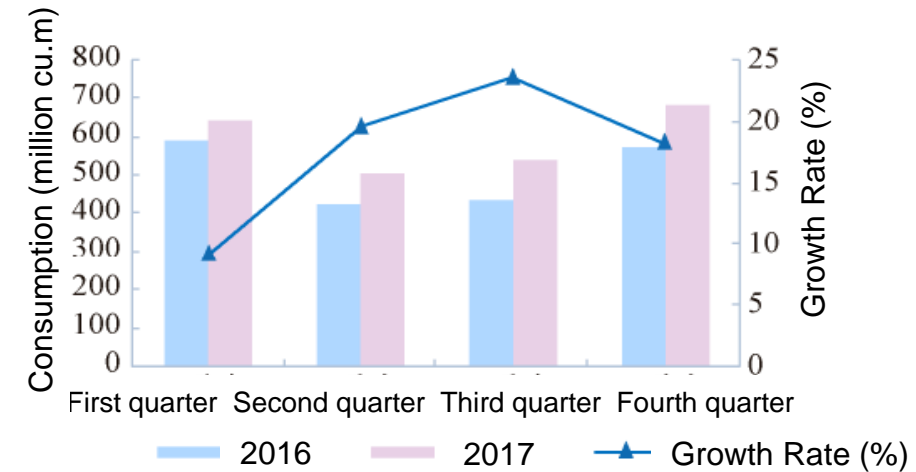


Figure 6-1-2 Chinese natural gas consumption and growth rate in 2017
Source: Data of 2016 and during first to three quarter in 2017 are from NDRC

In 2017, natural gas consumption in China was 235.2 billion cubic meters, up 17.0% over the same period of previous year, an increase of 10.6 percentage points over the previous year.

In 2018, China's natural gas consumption is estimated to be 258.7 billion cubic meters, up 10.0% over the same period of previous year. China's natural gas output is expected to reach 160.6 billion cubic meters by 2018, an increase of 8.8% over the same period of last year. Natural gas imports will reach 105 billion cubic meters, an increase of 13.4% over the same period of last year, and its foreign dependence will exceed 40%

4. Stable Oil and gas exploration and development and restorative upstream investment growth

In 2017, China's oil and gas exploration and development trend were stable

Upstream investment recovered, Oil and gas discoveries have increased., new proven reserves of oil and gas is nearly 1 billion tons and 500 billion cubic meters respectively

In 2017, China's oil and gas production oil has increased.

Crude oil production continues to fall, estimated annual production was 192 million tons, 3% down from 2016, a 7.1% drop significantly narrowed. Gas production to return to double-digit growth, estimated annual growth of 10%, the yield is 149 billion cubic meters.

Chart 7-2-1 Monthly oil & gas output

Month	Crude oil output			Natural gas output		
	2017 (10kt)	2016 (10kt)	Up (%)	2017 (million cu.m)	2016 (million cu.m)	Up (%)
Jan	1637	1769	-7.5	131	131	0
Feb	1486	1622	-8.4	120	117	3
Mar	1647	1711	-3.7	134	119	12.6
Apr	1588	1641	-3.3	121	106	14.4
May	1624	1676	-3.1	119	104	14.7
June	1602	1626	-1.5	117	99	18.2
July	1629	1664	-2.1	118	101	16.1
Aug	1597	1638	-2.6	117	106	10.2
Sept	1551	1592	-2.6	110	100	10
Oct	1608	1593	0.94	124	107	15.9
Nov	1575	1588	-0.82	125	120	4.2
Dec	1620	1650	-1.8	154	144	6.9
Annual	19164	19770	-3.1	1490	1354	10

Data source: The production data come from statistics of macroeconomic production of NDRC, among which the data of December and the whole year of 2017 are estimated.

4. Stable Oil and gas exploration and development and restorative upstream investment growth

Upstream investment has rebounded in 2017

In 2017, Chinese major three oil companies are in restorative growth, the upstream plans to invest in the oil, CNPC, SINOPI and CNOOC increase 10%, 32% and 33% respectively, the domestic oil and gas exploration and development industry began to thaw.

The oil and gas operation cost overall continues to fall

In 2017, China's major oil companies operating costs rose or differentiated. Compared with more than 10% in 2016, the overall reduction in operating costs achieved by oil companies in the first half of 2017 has narrowed significantly.

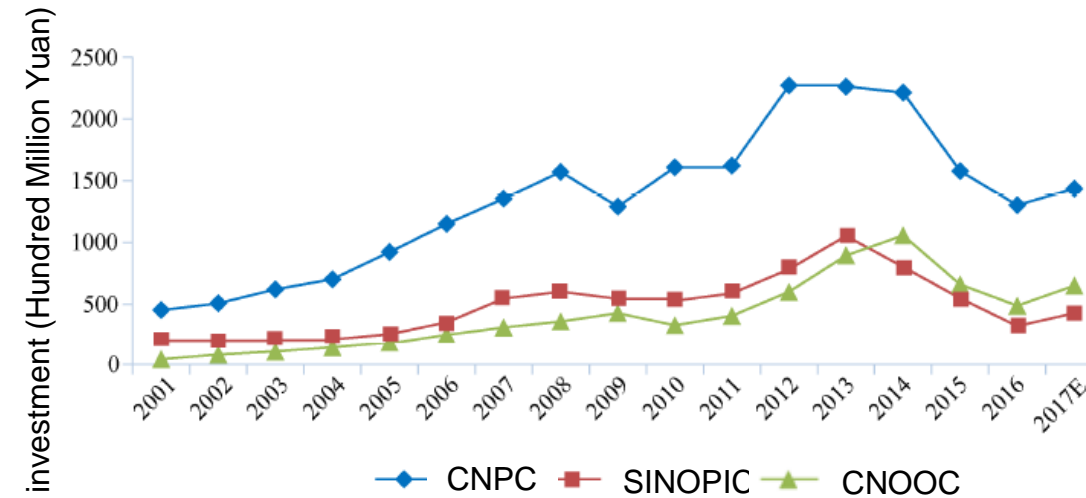


Figure 7-2-4 The three major oil companies exploration and development investment statistics

The oil and gas operation cost of three major oil company during first half of 2017

Company	oil and gas operation cost (US\$ / Barrel)		Change (%)
	First half of 2017	First half of 2016	
CNPC	10.85	11.32	-4.2
SINOPI	15.19	14.73	3.2
CNOOC	7.16	7.42	-3.5

4. Stable Oil and gas exploration and development and restorative upstream investment growth

Domestic oil and gas exploration and development trend in 2018

In 2018, domestic oil and gas exploration and development situation will be better, the upstream investment will continue rising, new proven oil and gas geological reserves of new proven geological reserves is still expected to maintain higher level of nearly 1 billion tons and 500 billion cubic meters.

Oil production is expected to stop falling; The potential for increased production of natural gas is still large, and if demand continues to pull strongly, it can still grow at double-digit rates.

The success of the south china sea gas hydrate has made China the first country in the world to achieve continuous and stable gas production in the exploration of natural gas hydrates in the sea.



5. China deepens the reform of the oil and gas industry

"Opinions on Deepening the Reform of the Oil and Gas System"

- Reform of mineral resources rights & interests system
- Price reform and market platform construction
- Oil import regulations

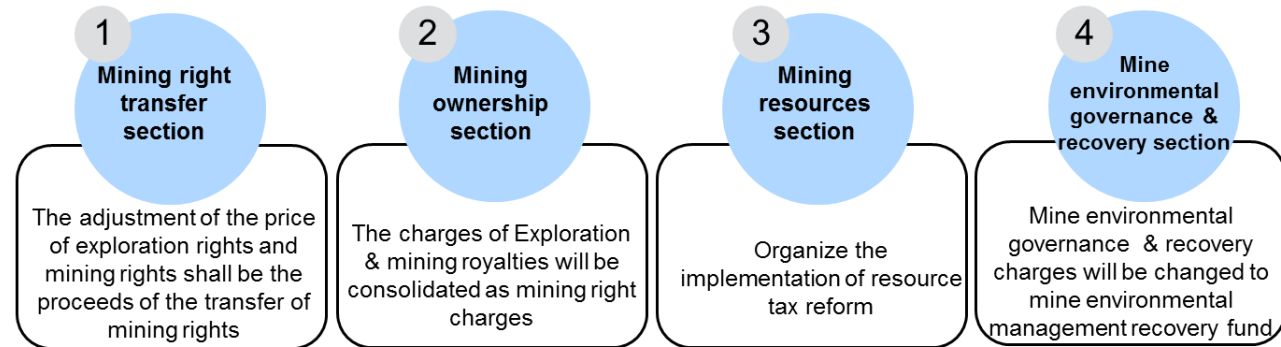


Figure 2-2-1 Main content about reform of mineral resources rights and interests system

Chart 2-2-3 Main target on "Opinions on Reforming the Price Mechanism in an All-Round Way"

Area	Main Target
Refined Oil	Adhere to the direction of the market, and further improve the mechanism of refined oil price formation
Natural Gas	Deepen the market-based reform of non-residential natural gas prices, release gas source price and sales price in a timely manner, complete gas price mechanism for residents and accelerate the construction of natural gas trading centers in Shanghai and Chongqing.
Natural Gas Pipeline	Establish and perfect the network-based natural monopoly pricing system based on "allowable cost + reasonable return" as its core, and contain constraints and incentives; implement strict supervision on key areas such as natural gas pipelines and carry out comprehensive cost supervision and examination

6. International crude oil interests output of China exceeded 150 million tons

In 2017, the overseas surviving projects of Chinese oil companies achieved sound operation, and the rights and interests of oil and gas production remained stable, reaching 190 million tons, an increase of 8.9% compared with that of 2016. The output of crude oil rights and interests is 150 million tons and the output of natural gas rights and interests is 45 billion cubic meters.

- "The Belt and Road" made a breakthrough in oil and gas cooperation
- The cooperation of large oil and gas projects promote the industry to go global

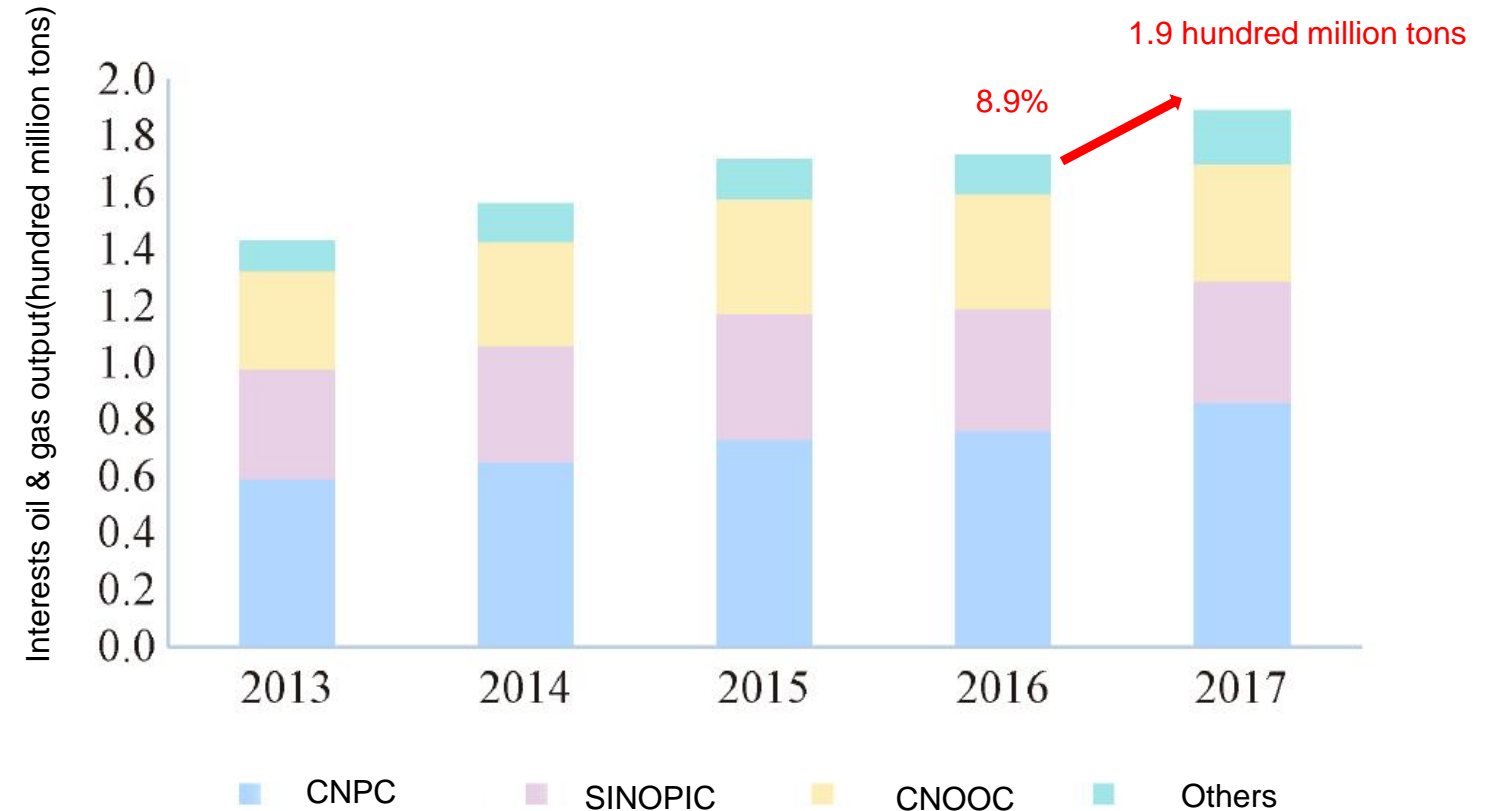


Figure 10-1-1 Overseas Interests Output of Chinese Petroleum Enterprises from 2013 to 2017

7. Forces cannot be ignored - Chinese private international oil & gas companies

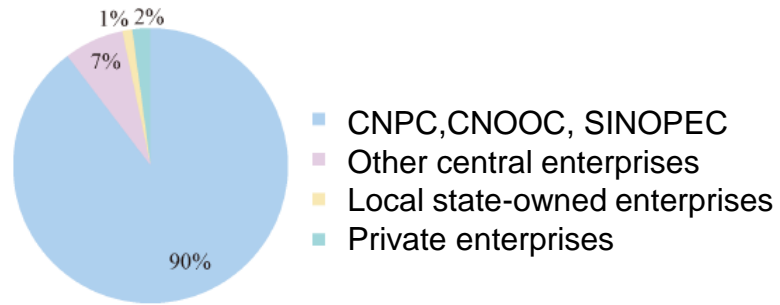


Figure 10-1-3 China Overseas Interests oil & gas output in 2017

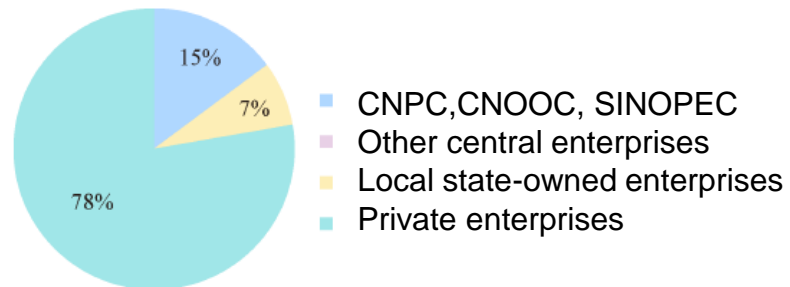
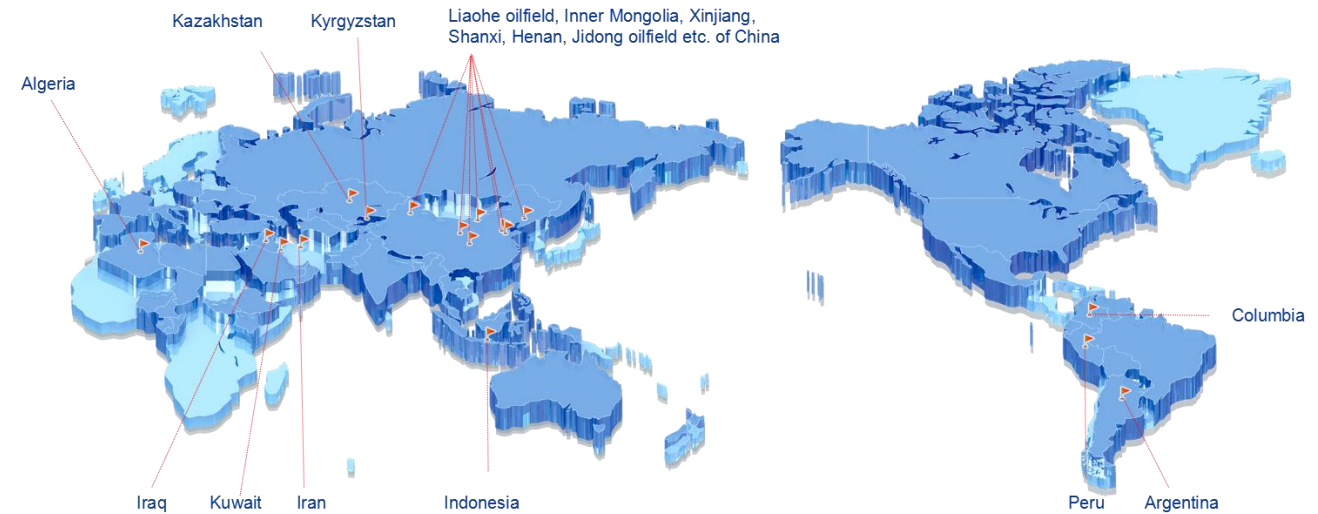


Figure 10-1-2 Amount of Overseas Acquisitions by Chinese Enterprises in 2017



In 2017, the contract amount of KERUI Oilfield Service Group, which the amount of overseas projects over 70%

Oil and gas production integration solutions

New Energy Development Engineering Services

Oil and gas industry whole industry chain technical support

Strategic Alliance

Supply Chain Integration

Financial Solutions

Thank You !

