



CNPC

CNPC Upstream Current Status & Strategy

Feb 27, 2018



China Petroleum Upstream Review

CNPC at a Glance

CNPC Upstream & Strategy

RIPED Profile

Executive Summary



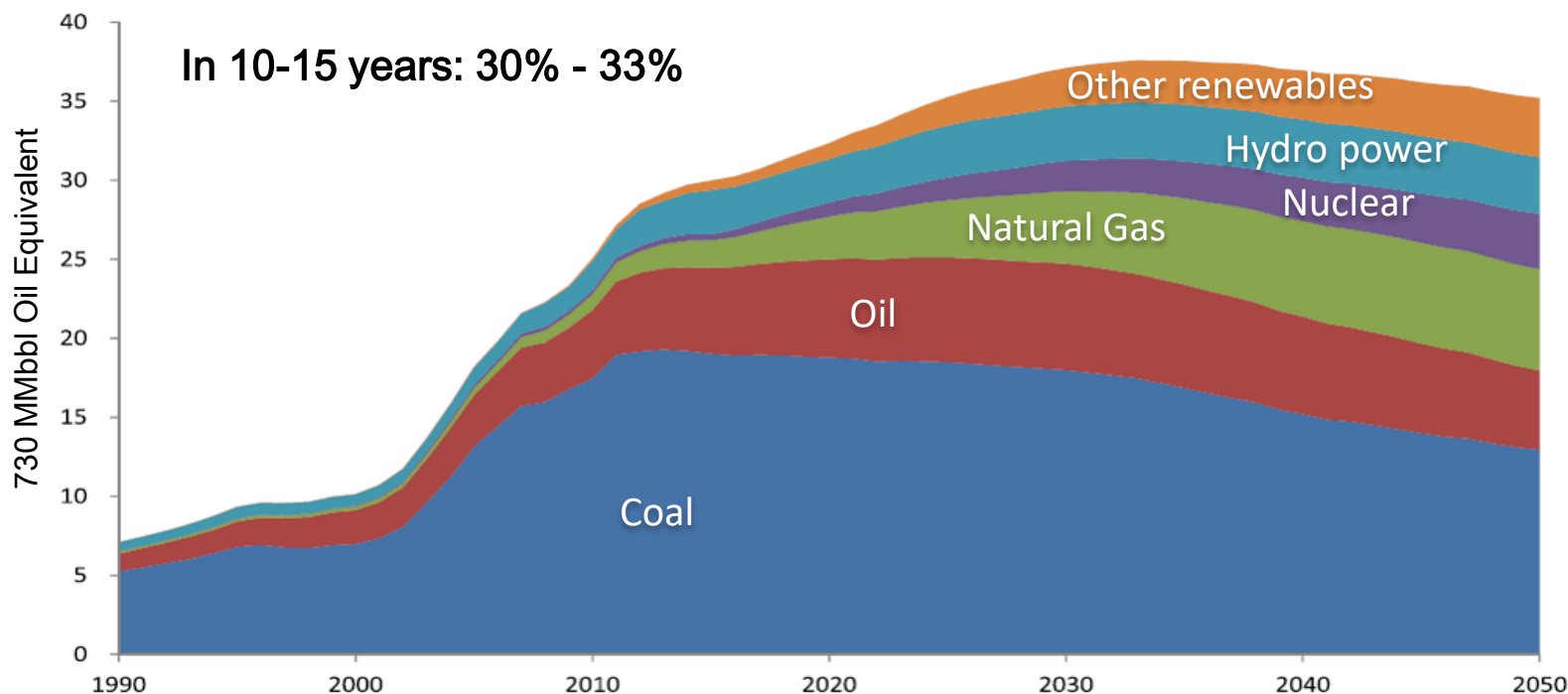


Primary Energy Demand Outlook in China

High share of primary energy consumption

Pillar of national economy and key for national energy security

Primary Energy Demand Outlook





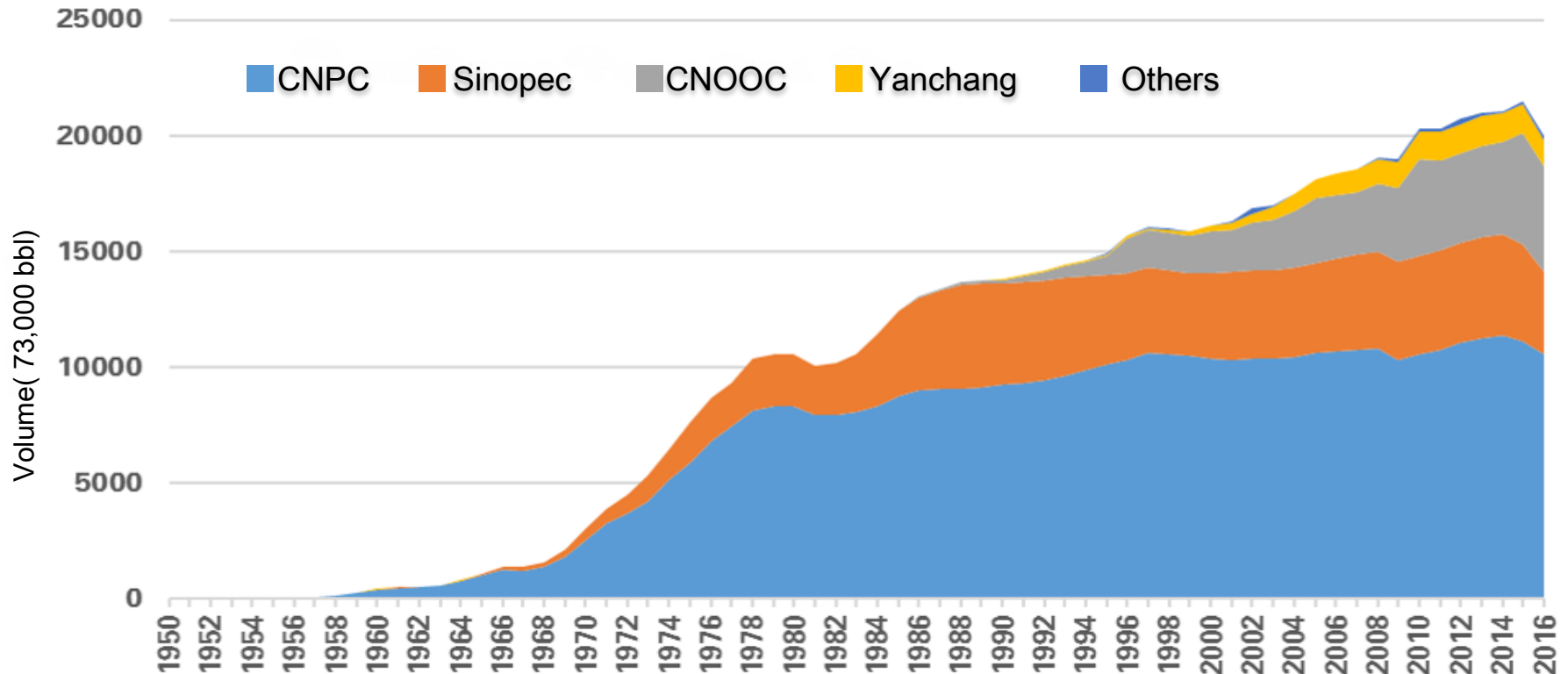
China Petroleum Upstream Review – Oil

China's crude oil production : 0.73 mmbbl (1977)

1.46 mmbbl (2010)

Plateau Production: 15.7 mmbbl (2015)

Historical Crude Oil Production in China (by Company)





China Petroleum Upstream Review – Natural Gas

Initial Stage : 1949 - 1975 : 353 mmcf ↗ 353 bcf

Slow development : 1976 - 2000 : 353 bcf ↗ 1.1tcf

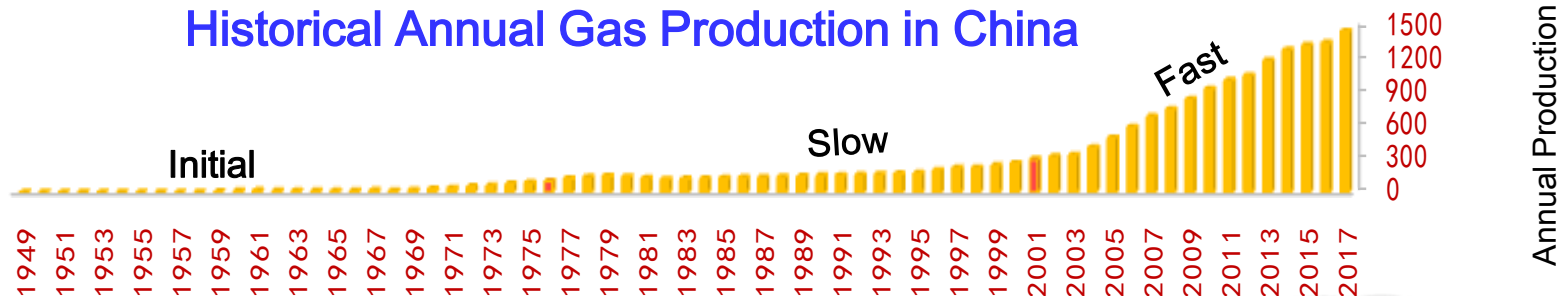
“Focus much on oil & little on gas”

Fast development : 1.1 tcf ↗ 5.2 tcf (since 2001)

“Focus equally on oil & gas”

4 Areas : Ordos, Tarim, Sichuan & the South China Sea

Historical Annual Gas Production in China



Small gas fields in Sichuan basin,
Sichuan & Chongqing gas pipeline
network system

Focus on dissolved gas and gas-layer gas,
Shaanxi - Beijing line

Large integrated gas fields discovered.
Se-Ning-Lan, Shan-Jing 2 and west-
east gas transmission pipeline



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CNPC at a Glance

CNPC is **the largest** oil and gas producer and supplier in China, as well as one of the world's major oilfield service providers and contractor in engineering construction.

CNPC is running **94** oil and gas cooperation projects in **38** countries(by 2017).





CNPC at a Glance

Employees: 1.5182 million

Assets: ¥ 4.0341 trillion(RMB)≈ \$ 602 billion(USD)

Global Ranking: In 2016, CNPC ranked 3rd of 50 large integrated oil companies in the world, and ranked 3rd of Fortune Global 500.





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CNPC Upstream – Domestic Reserves

Since 2011

Oil & gas equivalent of **11** new proved reserves \geq **730 mmbbl**

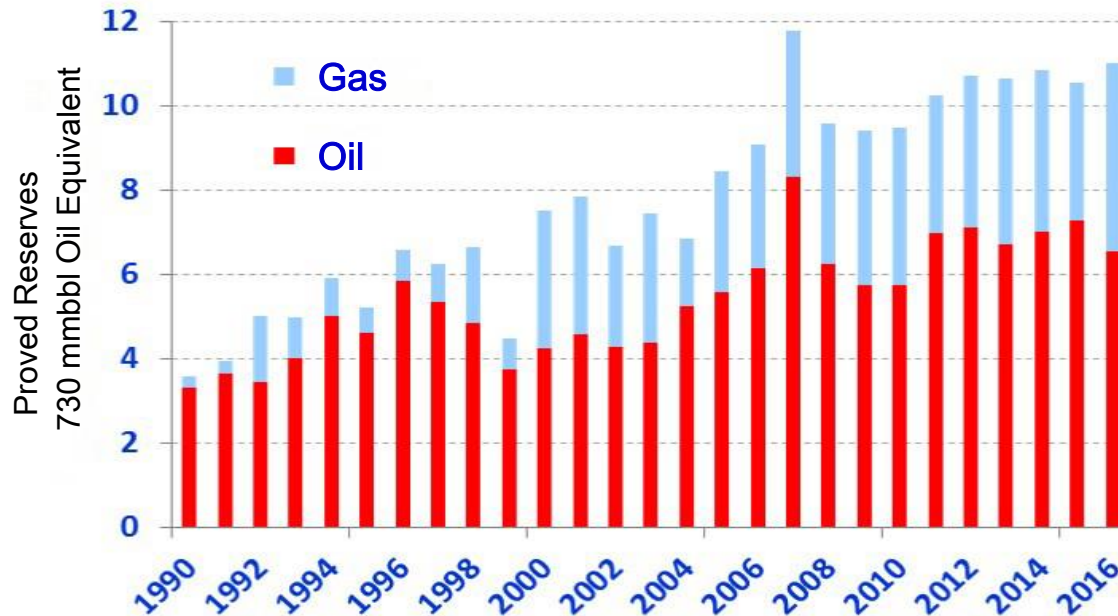
7 oil & **4** gas areas

10 in Central & western China

New proved reserves :

> 73 mmbbl annually for **6** consecutive years-“**Best in History**”

New proved reserves of CNPC





CNPC Upstream – Domestic Production

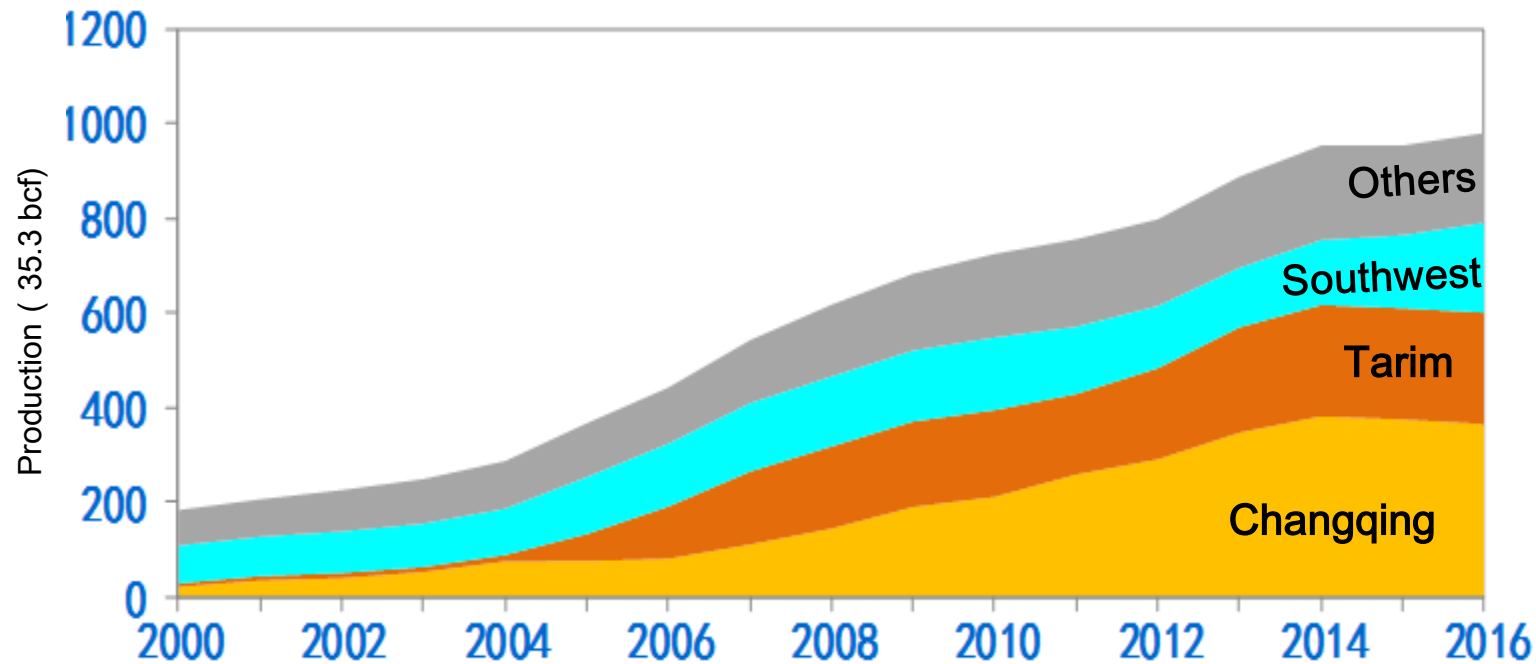
Plateau oil production > 730mmbbl for 2 decades+

Gas Production-dramatically growing:

Since 2000, annual natural gas production increased by 11%+

National gas production of 2016 >3.53 tcf

Historical Gas Production of CNPC (by Oil field)





CNPC Upstream – Overseas Business

Stable development-Economic of scale

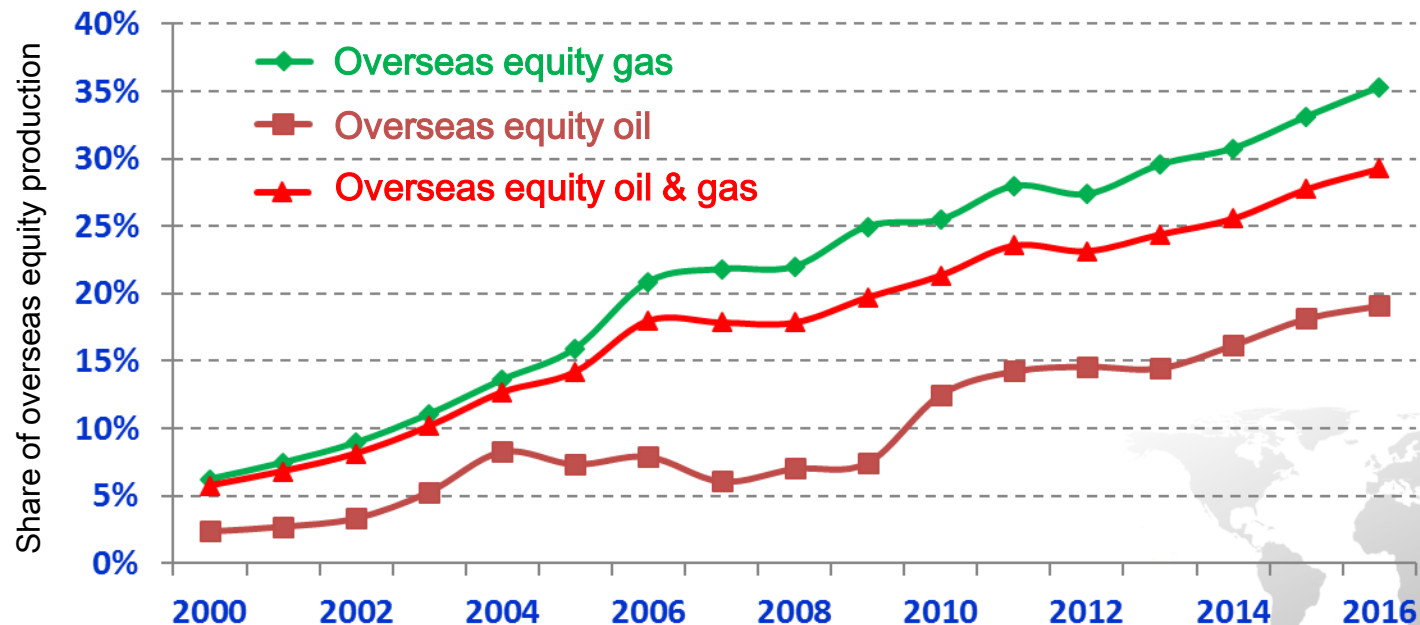
Overseas oil & gas equity production : 532 mmbbl (2016)

Overseas oil & gas equity production of CNPC total : ↗29.3% (2016)

Crude oil: 35.3%

Natural gas: 19.1%

Historical share of CNPC overseas oil & gas equity production





CNPC Upstream – Domestic Challenges

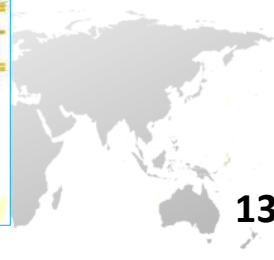
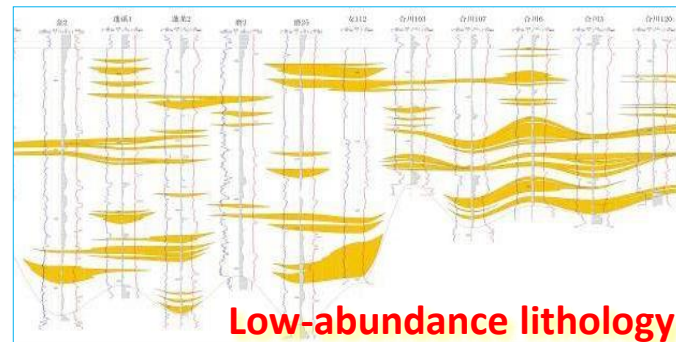
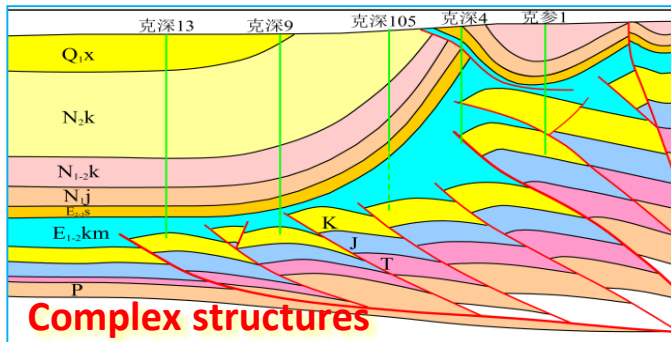
Exploration Targets: complex

Topographical conditions: mountainous, loess tablelands & deserts

Geological conditions : high & steep structure, low-abundance lithology, fracture-vug

Development Challenges

Mature oil fields : High water cut(90%) & High recovery (76%)(2016)





CNPC Upstream – Low Oil Price Impact

Profits from Upstream sector of oil companies declines, however

Annual tax from CNPC + Sinopec \approx ¥ 300 billion RMB (\$47billion USD)

Current assessment mechanism

Reduce new investment in the areas with high-risk

Production *VS* Efficiency: Balance

National crude oil production declines due to

Mature oilfields

Long-term low oil prices





CNPC Upstream Strategy

Efficiency Oriented, Equal effort on E&D

“Risk-pooling” & “profit-sharing”

Oil Companies & Oil Service companies

Interwoven & interdependent, win-win

“Single-plank bridge” to “Double channels”

R&D leading

Cost efficiency

Integration of all sectors

Technology innovation

Fine management





CNPC Upstream Strategy

Global Vision : Management & Coordination

Domestic

Oil & Gas

Conventional & Unconventional

Overseas

"Belt & Road"

Profit Oriented

Key to sustainable

Resources, Technology, Talent & Capital

Cost efficiency

Synchronized increase of reserves, production & profit

Target : 2200 mmbbl of oil & gas equivalent in 2020

Domestic crude >730 mmbbl, Gas > 4.24 tcf

Overseas oil & gas equity > 730 mmbbl



CNPC Upstream Strategy

Innovation strategy: Profit & Efficiency

- Theories:**
- Onshore deep layers & offshore deep water
 - Unconventional oil & gas accumulation
 - High-efficient E&D
 - Residual oil & gas of mature oilfields
 - Characteristics of water flooding
- Techniques:**
- High-precision 3D seismic
 - Intelligent steering drilling
 - Fracturing stimulation
 - Gas-medium chemical flooding
- Management:**
- Integration E&D, geology & engineering
 - Technology & economy
 - Production & environmental protection





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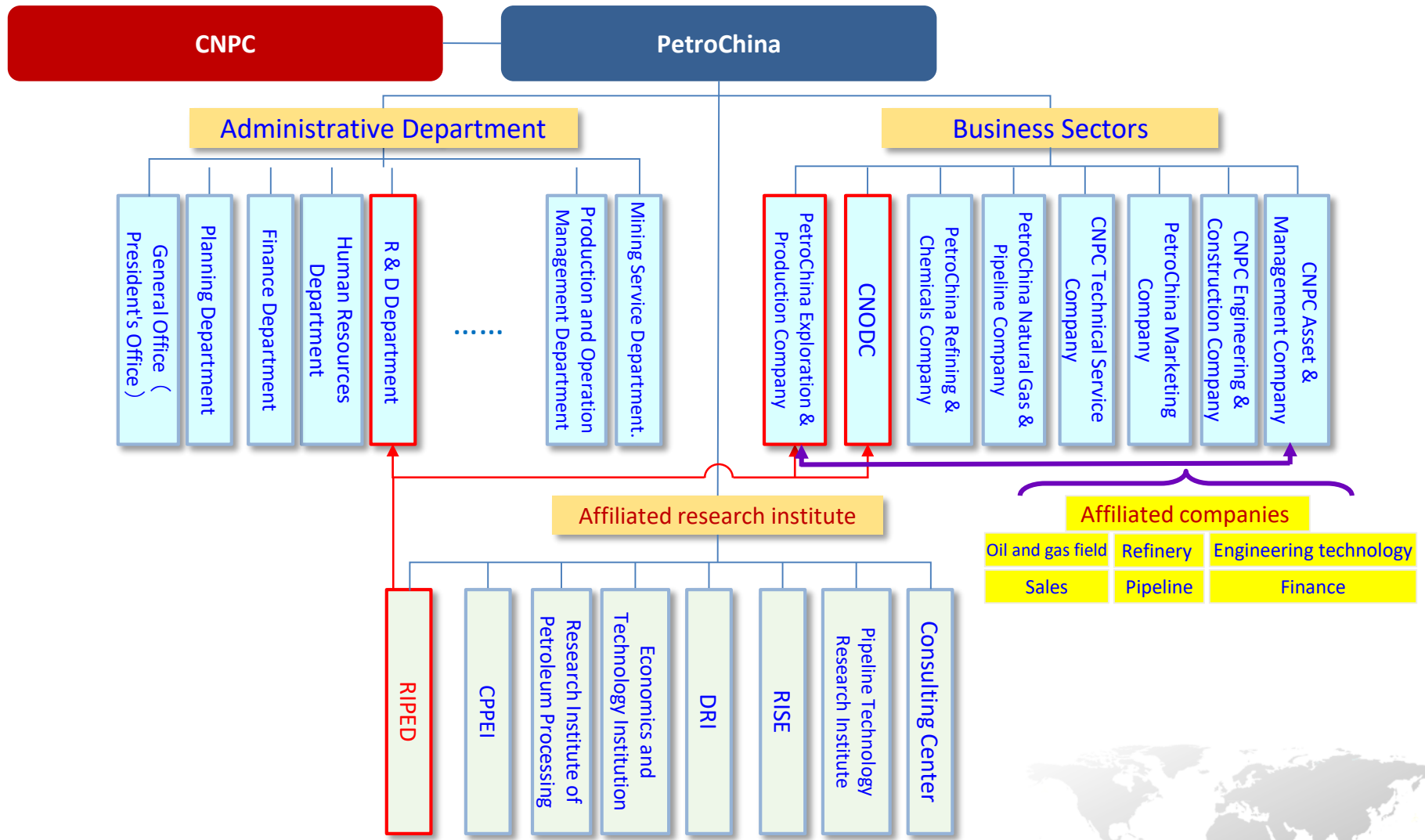
RIPED Profile

Executive Summary





RIPED Profile – Position in CNPC



RIPED : Affiliated research institute for CNPC's global O&G's E&D.



RIPIED Profile – Visions & Missions

“One think tank and three centers”



Backbone of upstream technological innovation& talent training of China's petroleum industry





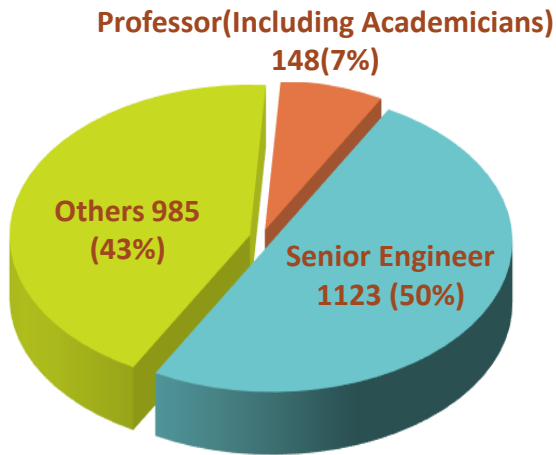
RIPE Profile – Talents

Employees: 3169 (2229 researchers)

High professional titles:

8 in-service academicians, 75 corporate senior technical experts,
148 professors, 1123 senior engineers (professor + senior engineers : 57%)

Well-educated: 1961 master's degree or above, 88% of total researchers





RIPED Profile – Resources

Series of Equipment and instruments

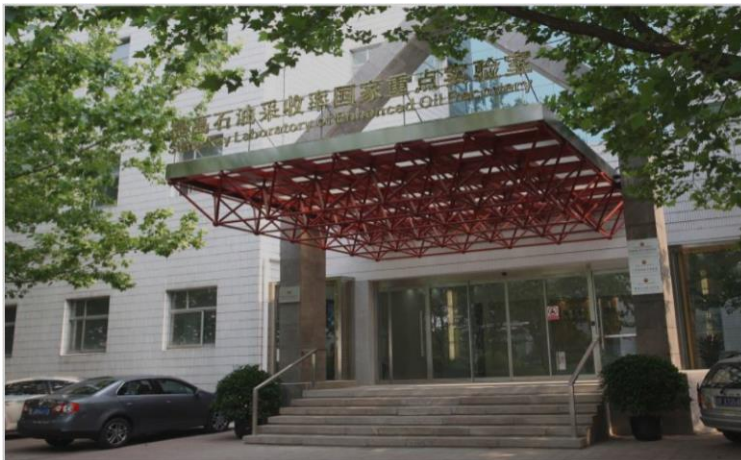
A relatively complete upstream fundamental R&D platform

R&D innovation platform

International exchange window

4 state key laboratories and R&D center

17 corporate-level key laboratories



SKL of EOR



Nano CT (50nm, 70um)



RIPOD Profile – Resources

National Oil & Gas Strategy Research Center

Establishment: Dec 8, 2017

Prompt and valuable decision support to National Energy Administration for a sustainable development of petroleum industry and national energy security





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Upstream business : Priority for CNPC

Current Status: challengeable exploratory targets & low oil price

Strategy: Adequate investment
Innovation & reform
Resources integration



**Continuously Contribution to China's Energy
Transition & moderately prosperous society!**

**Welcome to RIPED for the 2nd IEF Industry
Advisory Committee Workshop on July 31, 2018**



Thank you for your attention!