Chinese NOCs' Corporate Strategies

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Introduction

- Why focus on Chinese NOCs
  - Understanding principles of Chinese NOCs' behaviors is very important for projecting the future energy situation of China and Northeast Asia.
  - The NOCs have two faces: those of a government organization and of a commercial enterprise. This presentation analyzes the relationship between the government and NOCs, how each NOC as a commercial enterprise views its business environment, and what their business operations are.
  - The NOCs subject to this report are CNPC/PetroChina, Sinopec and CNOOC.
- Contents
  - Overview of NOCs and Their Relationship with Government
  - Each NOC's Business Operations
  - Conclusion and Outlook

Overview of NOCs and Their Relationship with Government

Overview of NOCs

- Following are financial and operational data for their listed subsidiaries of Chinese NOCs in 2007:

	PetroChina	Sinopec	CNOOC
Sales ($1 million)	110,154	158,938	11,892
Net profit ($1 million)	20,477	7,458	4,079
Ratio of net profit to sales	**18.6%**	**4.7%**	**34.3%**
Government stake	90%	77.42%	70.6%
Gross assets ($1 million)	139,848	96,658	23,657
Oil output (kb/d)	2,298	799	372
Gas output (mcf/d)	4,458	774	560
Product sales (kb/d)	2,230	2,388	n.a.
Output －Sales (kb/d)	**68**	**-1,589**	**372**

Sources: NOCs' annual reports, etc.

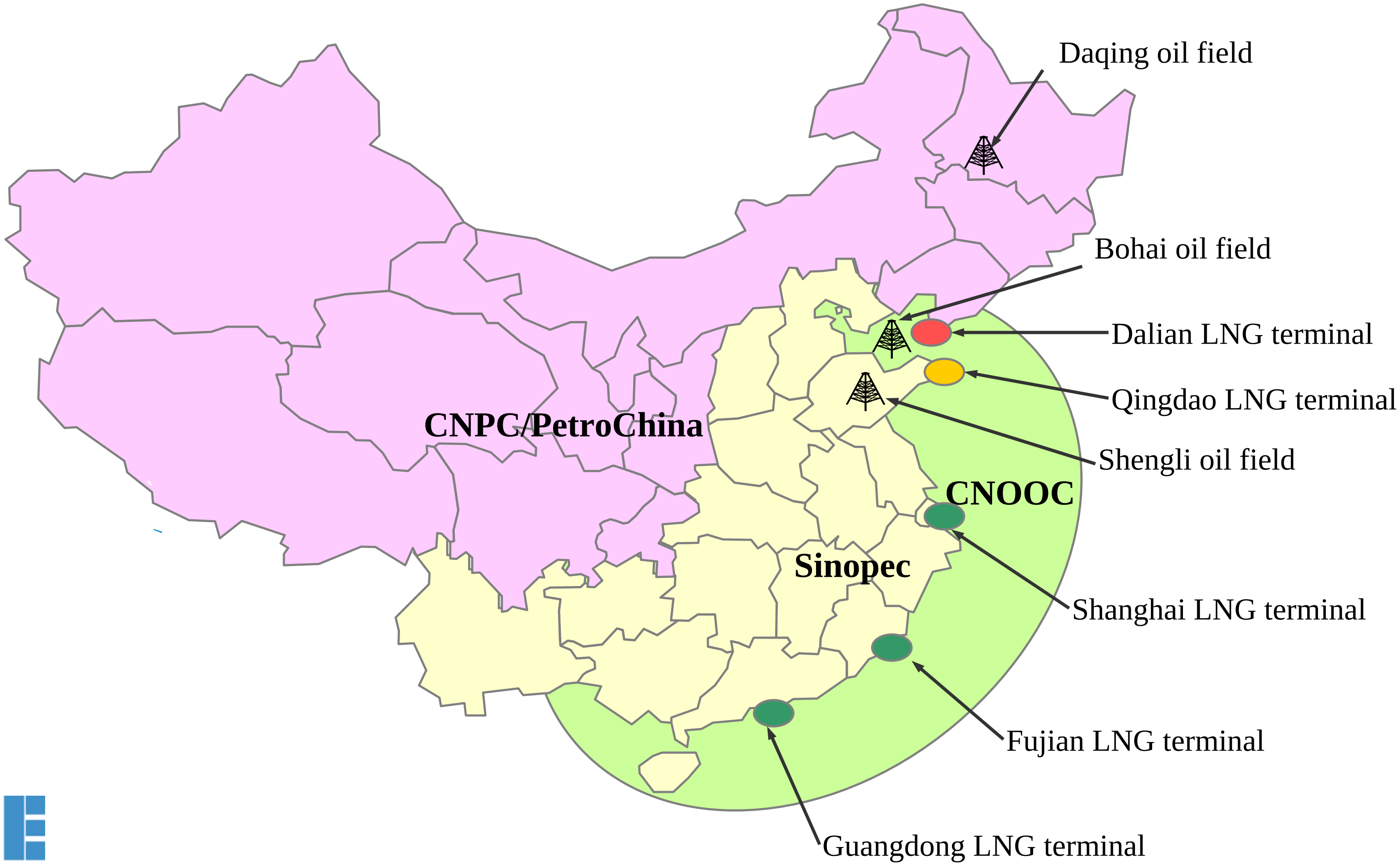
NOCs' Major Assets

- NOCs' major assets are listed below:

	CNPC/PetroChina	Sinopec	CNOOC
Onshore oil/gas field	Daqing oil field (Heilongjiang)	Shengli oil field (Shandong)	
Offshore oil/gas field			Bohai oil field
Major overseas assets	Sudan, Kazakhstan	Middle East, South America	LNG projects in Indonesia, Australia
Pipeline	West-East Gas Pipeline, etc.	South	
Oil refinery, petrochemical plant	Northwest	Southeast	Huizhou (Guangdong)
LNG terminal	Dalian (Liaoning)	Qingdao (Shandong)	Guangdong, Fujian, Shanghai
Power generation			Hainan

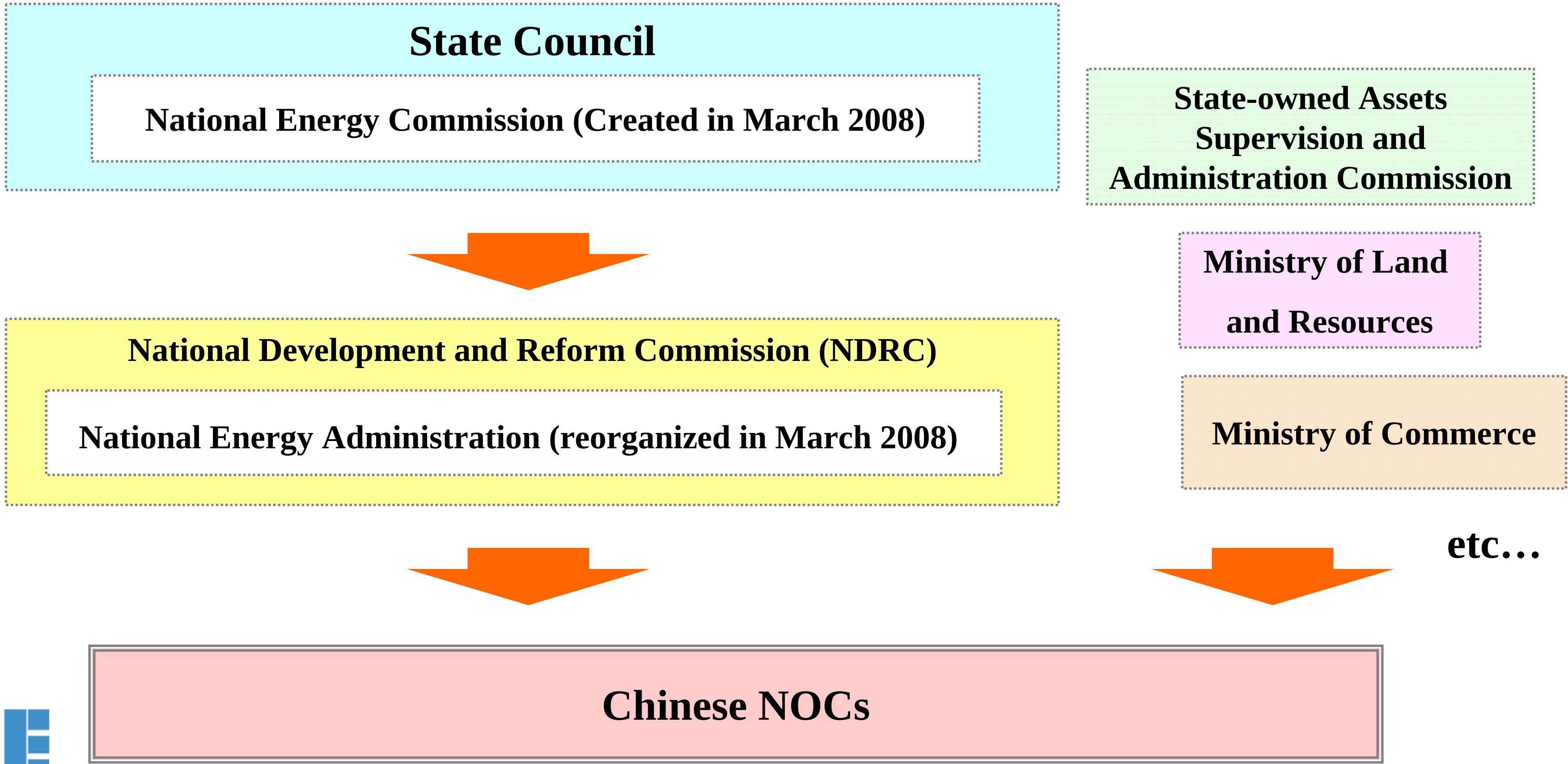
NOCs' Major Assets

- Different geographical locations of NOCs' major assets



Chinese Government Oil/Gas Organizations

- Many government organizations are involved in the oil and gas industry.
  - Controversial proposal for creation of the Energy Ministry failed to be approved this year.
  - Details of the proposed energy law are still under discussion and have yet to be fixed.



History of Government Organization Realignment

- Repeated realignment of relevant government organizations
  - Need for developing arrangements to make and implement persistent energy policy ⇔ Transferring administrative functions to enterprises in accordance with market economy development and downsizing of government organizations

Year	Reorganization
April 1988	**The Ministry of Energy** was created to separate administration from business management.
March 1993	**The Ministry of Energy** was abolished without working sufficiently. Effective administrative functions were transferred to NOCs.
March 2003	**The Energy Bureau** was created within the National Development and Reform Commission (NDRC).
May 2005	**The National Energy Leading Group**, headed by Premier Wen Jiabao, was created to cover energy administration across government agencies (the group was transformed into the National Energy Commission in March 2008).
June 2005	As a secretariat for the above group, **the Office of the National Energy Leading Group** was created within the NDRC (the office was transformed into the National Energy Commission in March 2008).
March 2008	**The National Energy Commission** was established at the State Council.
March 2008	The NDRC's **Energy Bureau** was reorganized into (upgraded to) the **National Energy Administration.**

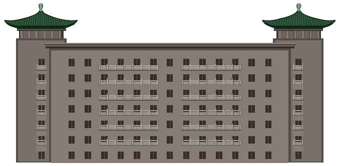
Chinese Government's Relationship with NOCs

- "Socialist Market Economy" as key word
  - The socialist market economy means a system to introduce market economy principles under the socialist ideology to invigorate the economy. The system was proposed at the Communist Party Convention in 1992 and put into the Constitution as China's economic management principle in 1993.
  - The economic system features the conflicting coexistence of state economic control and market-based enterprise principles.

- Government-NOC relationship reflects the coexistence of the above two conflicting principles
  - NOCs work as a bureaucracy operating under government control.
  - NOCs also work as profit-making enterprises that conduct business operations independently from the government.

NOCs as State-Controlled Bureaucracy

- NOCs under state control conduct business operations meeting government policies



Government

NOCs

Government's Control and Influence Tools on NOCs

- Promotion of NOC officials
- Approval on investment projects
- Setting domestic energy prices (providing compensation)
- Taxation

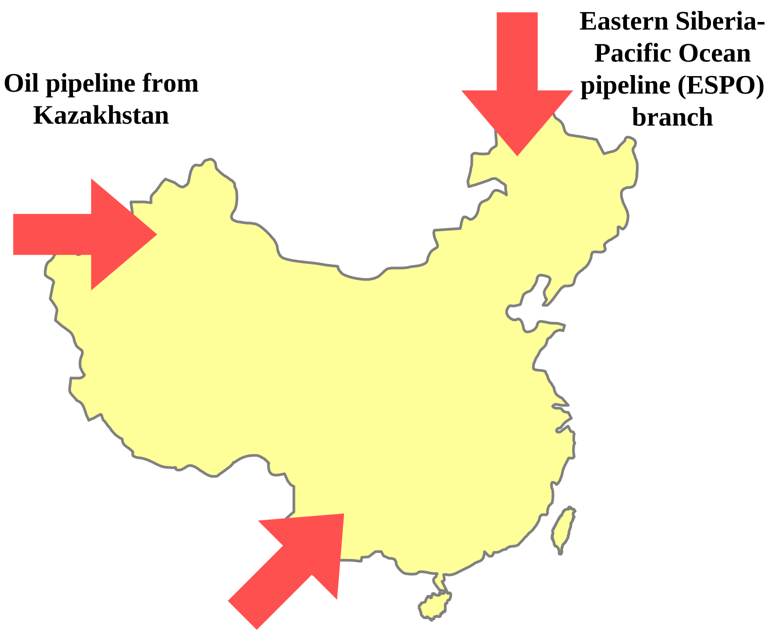
Business Operations Meeting Government Policies

- Acquisition of overseas upstream equities
- Investment in oil-producing countries under the principle of "multi-polarized diplomacy"
- Diversification of oil and gas import sources and routes
- Domestic product supply at subsidized prices

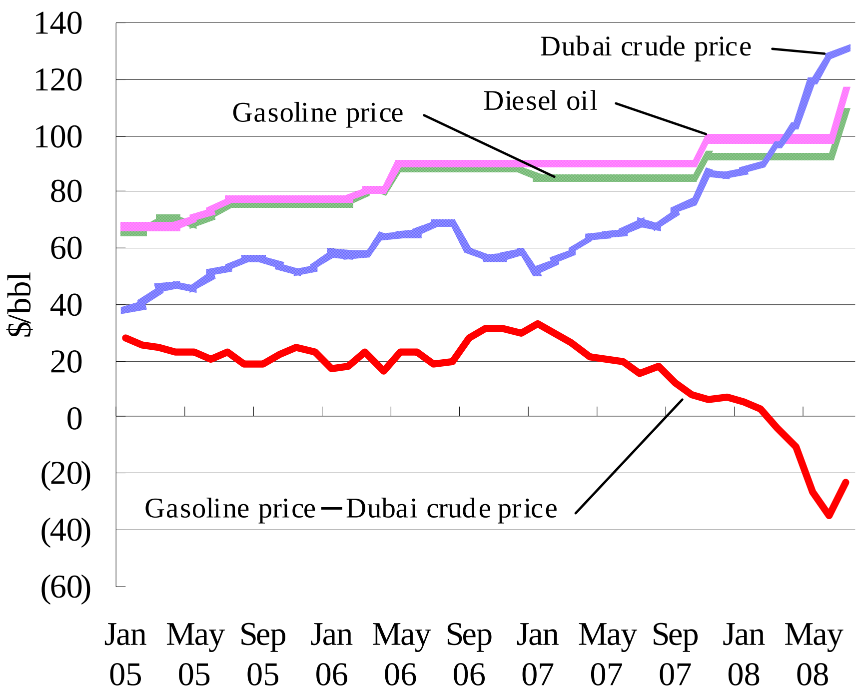
NOCs as State-Controlled Bureaucracy (continued)

- China has attempted to diversify import routes, as well as supply sources, to overcome its energy security vulnerability.
- Petroleum product prices are kept at low levels despite material (crude oil) price spikes.

Crude Oil Import Route Diversification Options



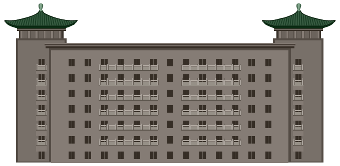
Crude Oil Prices and China's Domestic Petroleum Product Prices



(Source) Prepared by the reporter based on media reports.

NOCs as Independent Commercial Enterprises under Market Economy

- NOCs are strongly independent from the government in some aspects.



Government

NOCs

Limits on Government Influences on NOCs

- Shortage of officials well versed in oil and gas business operations
- Shortage of domestic and overseas oil and gas market information and statistics
- Absence of any strong single energy administration agency

Aspects Indicating NOCs' Independence

- NOCs are required to secure profit as listed companies.
- Top management of NOCs is highly ranked within the government hierarchy (ranked as a minister level).
- NOCs lead exploration of overseas assets for their acquisition and take advantage of government support (leaders' diplomacy and financial support) for the acquisition.

Respective NOC's Business Operations

SWOT Analysis

- SWOT analysis is a framework for analyzing an enterprise’s business environment qualitatively.
  - An enterprise’s internal and external factors that have positive or negative business effects are classified into strengths, weaknesses, opportunities and threats to analyze the overall business environment.

	Positive effects	Negative effects
Internal factors (Value chain structure)	**S**trength	**W**eakness
External factors (Political, economic, social and technological factors)	**O**pportunity	**T**hreat

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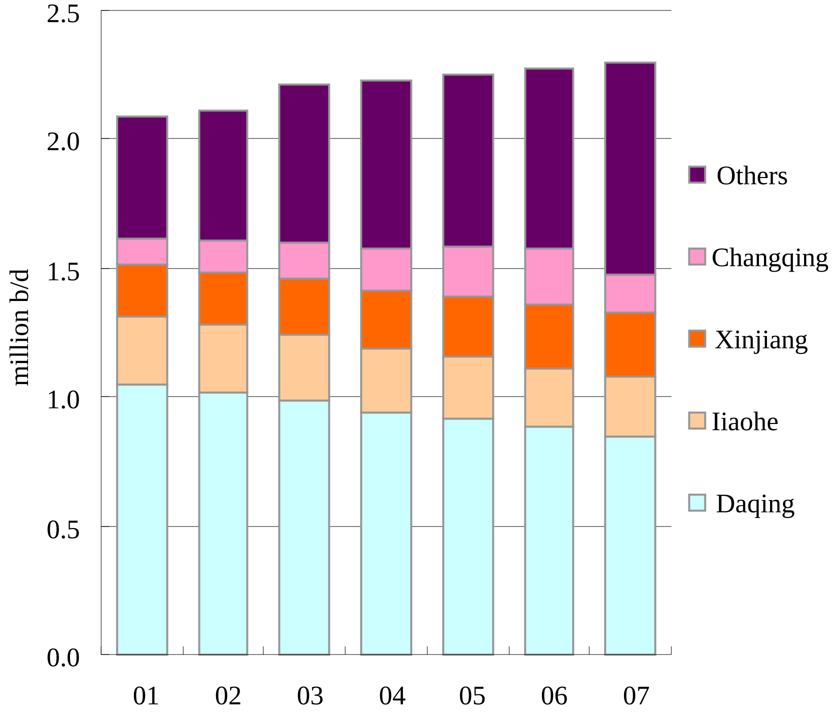
SWOT Analysis of CNPC/PetroChina

Strengths	Weaknesses
✓ A dominant position in the domestic upstream sector ✓ Great flexibility and investment capacity for overseas expansion ✓ Global business operations ✓ Strong influences on the government	✓ Declining output at existing large oilfields ✓ Offshore oil development know-how and experiences ✓ Geographical gaps between proprietary production assets and consuming regions
Opportunities	**Threats**
✓ Earnings improvement on oil price hikes ✓ Domestic market (demand) expansion ✓ Opportunities for expansion into new promising sectors (Southeast market, LNG, downstream gas business)	✓ Deterioration of overseas upstream sector investment environments (cost inflation, resources nationalism) ✓ Deterioration of domestic downstream sector profitability under the subsidized price system

Maintaining Strengths in Domestic Upstream Sector

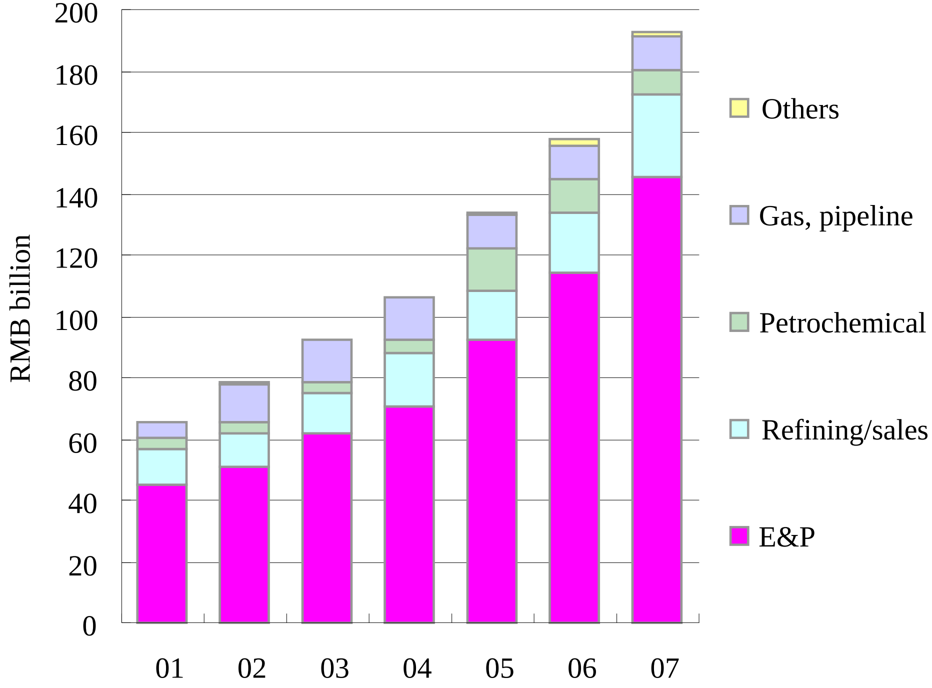
- Output declines at existing large oilfields have to be offset with new oilfield development
- Capital expenditures in the upstream sector are increasing in value and share.

Changes in PetroChina Output by Oilfield



Source:CNPC/PetroChina annual report

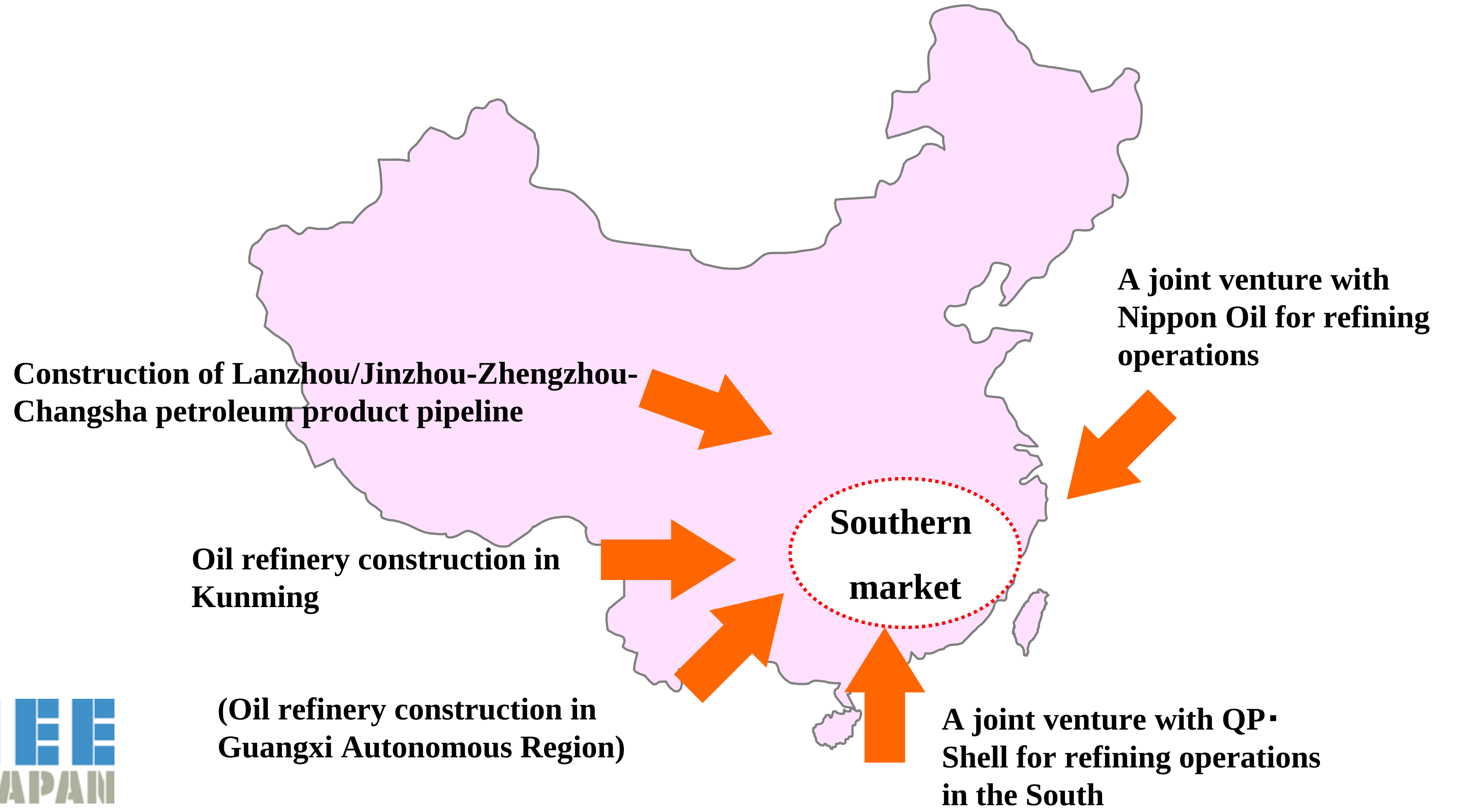
Changes in PetroChina Capital Expenditures by Sector



Source: CNPC/PetroChina annual report

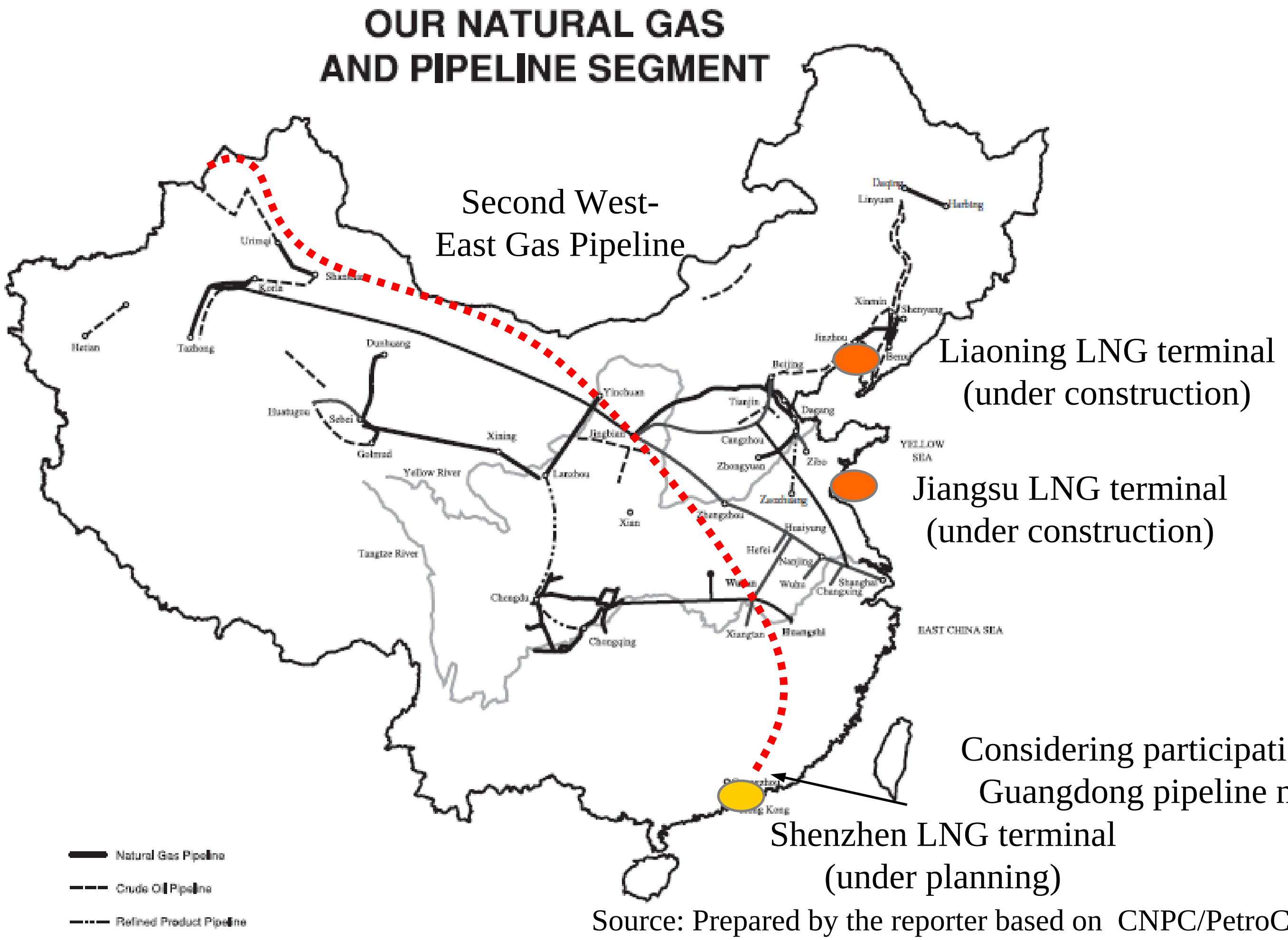
Expansion into Southern Market

- Expanding into the southern petroleum products market growing on procurement of overseas products, and construction of crude oil and product pipelines and refineries



Participation in Southeastern Gas Market and Expansion into LNG Operations

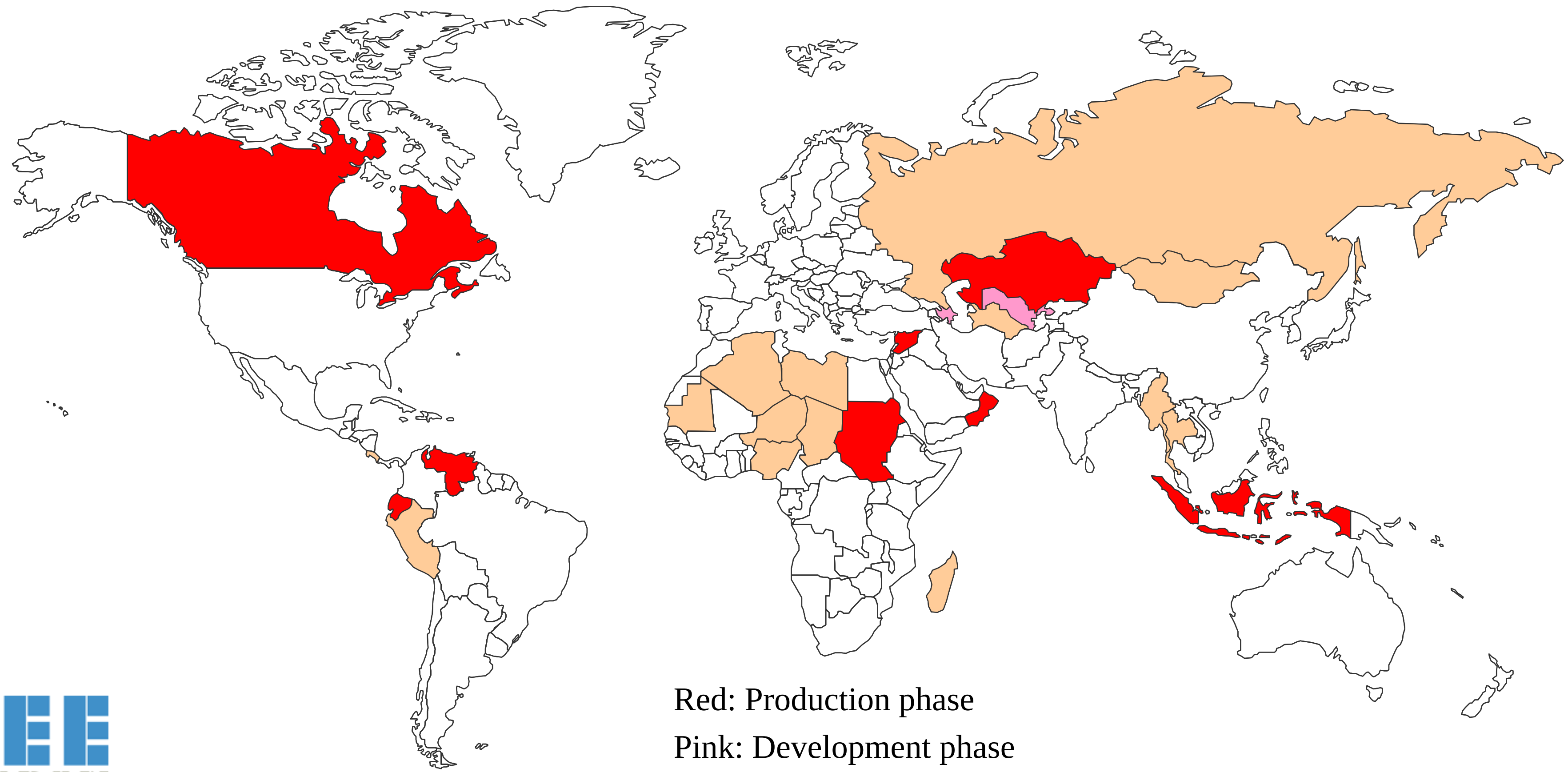
- Construction of the second West-East Gas Pipeline to obtain the southern gas market
- Securing imported LNG to be sold along with domestic gas in the East



Source: Prepared by the reporter based on CNPC/PetroChina annual report

Continuing Overseas Expansion

- Seeking to obtain new earnings opportunities as domestic oilfields mature
- Strong in resistance to investment risks, and in flexible responses including downstream sector investment and engineering services to meet needs of oil-producing countries

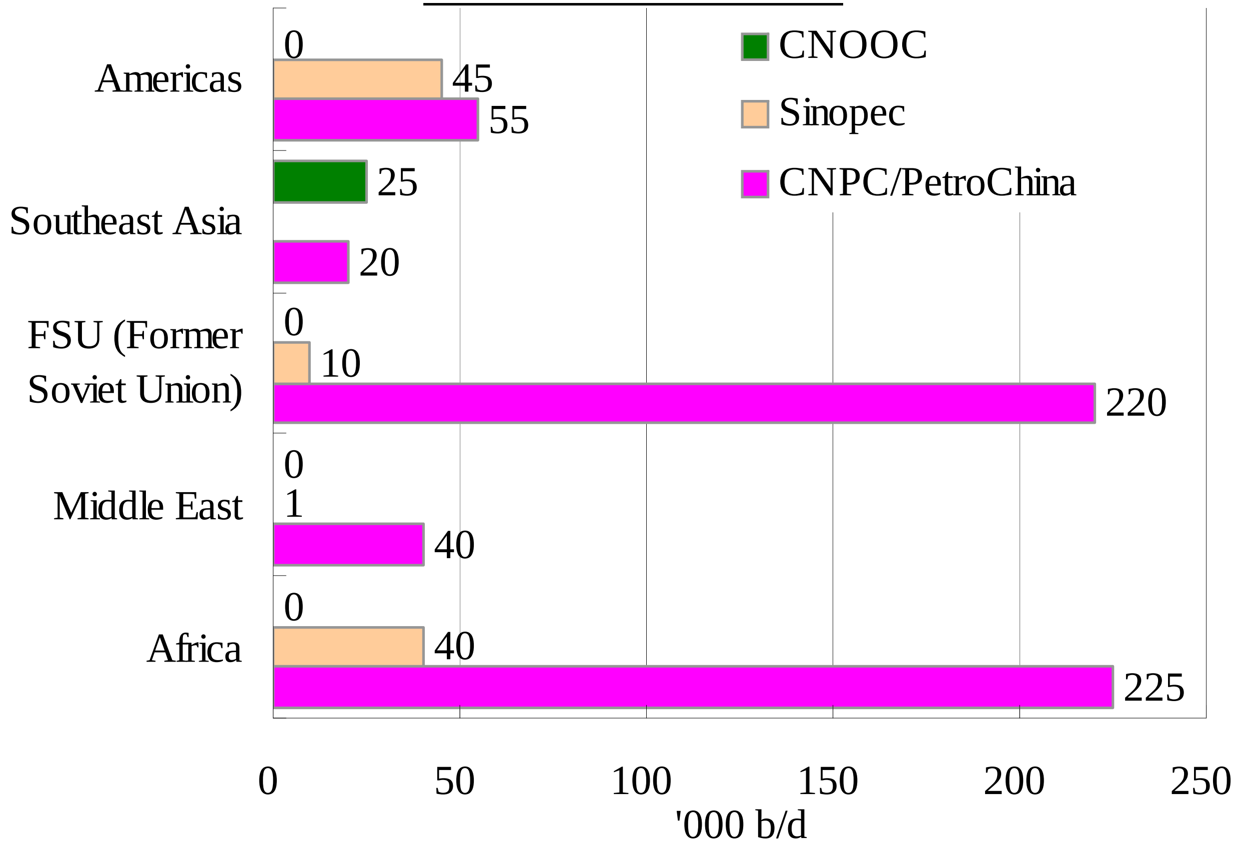


Red: Production phase
Pink: Development phase
Light brown: In or before exploration phase

Oil Production for Overseas Investment Interests

- Among the three Chinese NOCs, CNPC/PetroChina boasts the largest overseas production.
- Major production bases are Sudan and Kazakhstan.

Chinese NOCs' Oil Production for Their Investment Interests

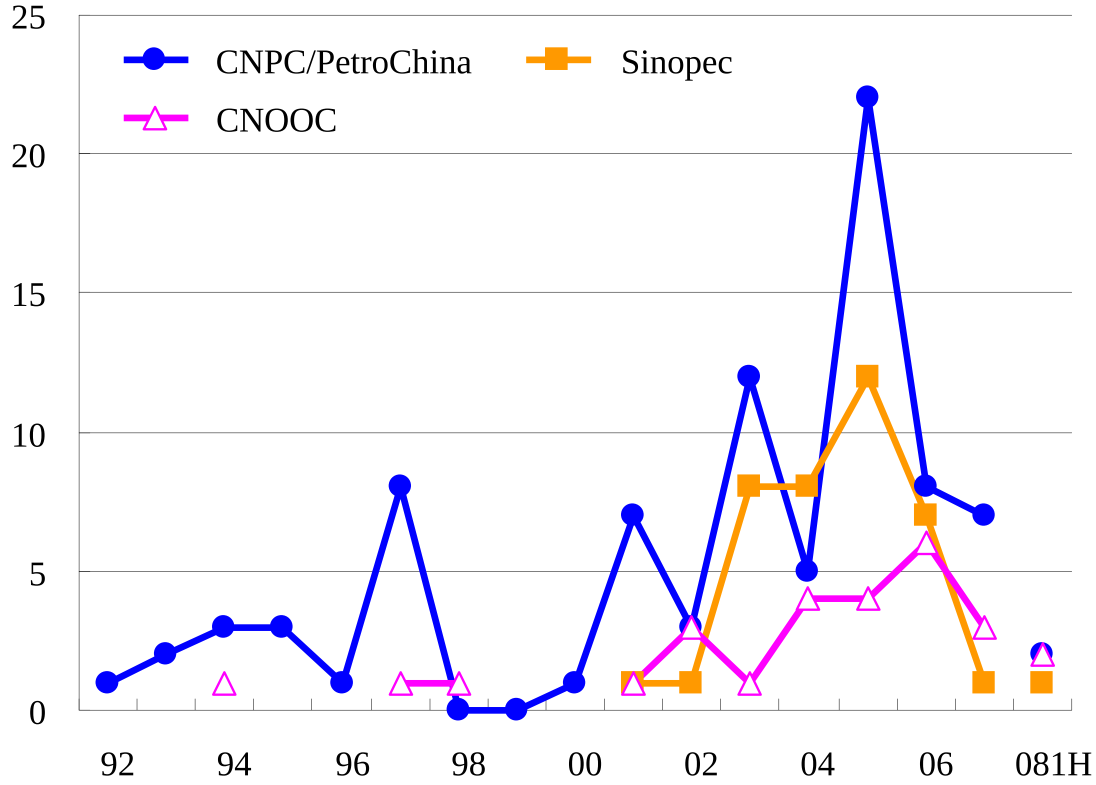


Source: Houser (2008)

Overseas Investment Projects Are Now Declining

- The three Chinese NOCs including CNPC/PetroChina seem to have been cautious about overseas investment over recent years.
  - The cautious attitude is attributable mainly to deterioration of upstream sector investment environments and asset price hikes. Some attribute the attitude to consideration of reputation risks and modification of overseas strategies as well.
- But no changes have been seen as factors that encourage the Chinese NOCs to promote overseas expansion.

Changes in Number of Chinese NOCs' Overseas Investment Agreements



Source: Prepared by the reporter based on relevant data

SWOT Analysis of Sinopec

Strengths	Weaknesses
✓ Largest domestic oil refining and sales shares (strong in Southeast) ✓ Downstream sector know-how and experiences ✓ Influences on the government	✓ Gap between crude oil output and refining capacity ✓ A relatively weaker financial profile ✓ Upstream sector know-how and experiences ✓ Declining output at existing large oilfields
Opportunities	**Threats**
✓ Domestic market expansion (particularly in Southeast) ✓ Oil-producing countries' growing interest in Chinese markets ✓ Opportunities for expansion into Northwest	✓ Further deterioration of domestic downstream sector profitability under the subsidized price system ✓ Other NOCs' expansion into Southeast ✓ Increasing petrochemical production capacity in Middle East

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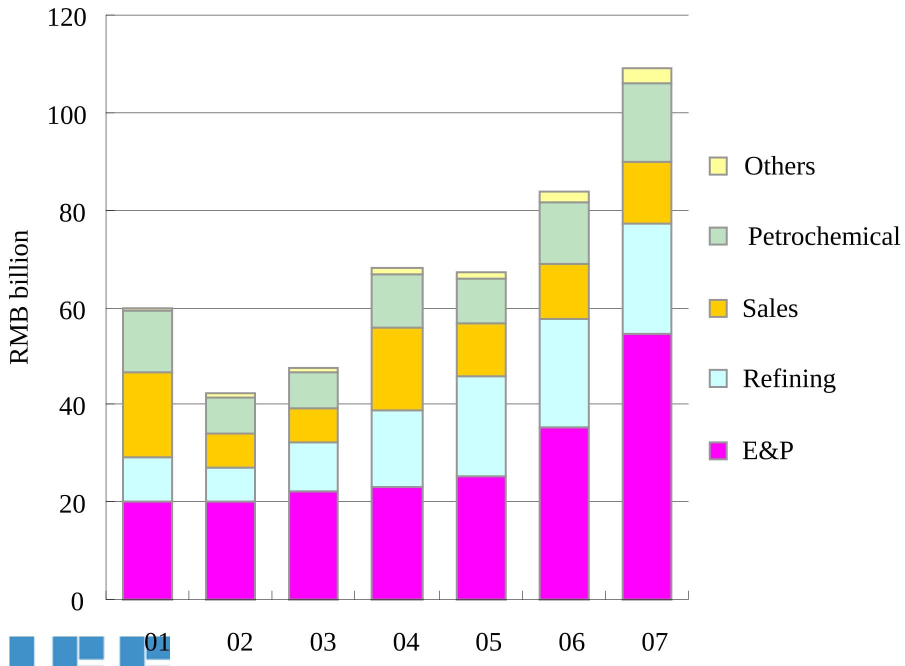
Downstream Sector Capacity Expansion

- The downstream sector's share of Sinopec capital expenditures is relatively larger.
  - Accepting oil-producing countries' capital investment in refining capacity expansion in exchange for crude oil supply security (market for)
- Efficiency has improved and advanced facilities have been adopted in new-built refineries.

Changes in Sinopec Capital Expenditures by Sector



Source: Sinopec annual report

Sinopec's Major Refining Capacity Expansion Projects

Refinery	+'000 b/d	Note
Qingdao	200	A joint venture with Saudi Aramco ?
Fujian	160	A joint venture with Saudi Aramco/ ExxonMobil
Wuhan	80	
Changling	100	
Kanjiang	100	
Guangzhou	300	A joint venture with KPC/Shell or BP
Maoming	130	
Guangxi	160	A joint venture with CNPC

Source: Prepared by the reporter based on media reports

Defending Southern Petroleum Product Market

- Expansion of refining capacity (see p.23), development of pipeline networks and enhanced control of independent refineries to counter other NOCs' offensive

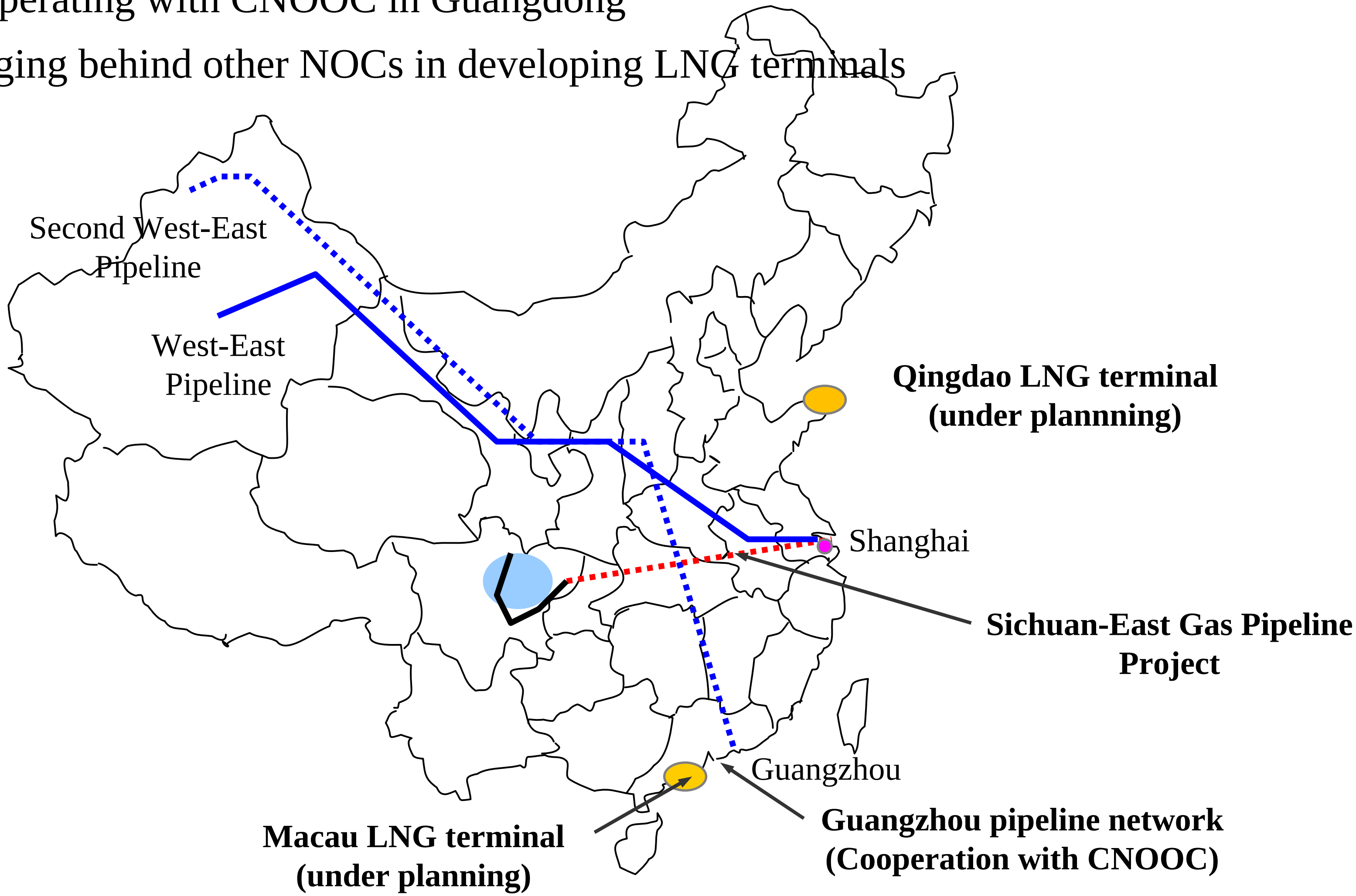
Pipeline Network Development by PetroChina and Sinopec

Moves in Shandong Province Market

- Planning to integrate independent refineries and enhance port and harbor capacity through talks with Shandong Provincial Government
- Enhancing control on independent oil refineries by establishing Shandong Fuel Oil Association to provide crude oil to and share information with them

Expanding Supply Capacity for Southeastern Gas Market

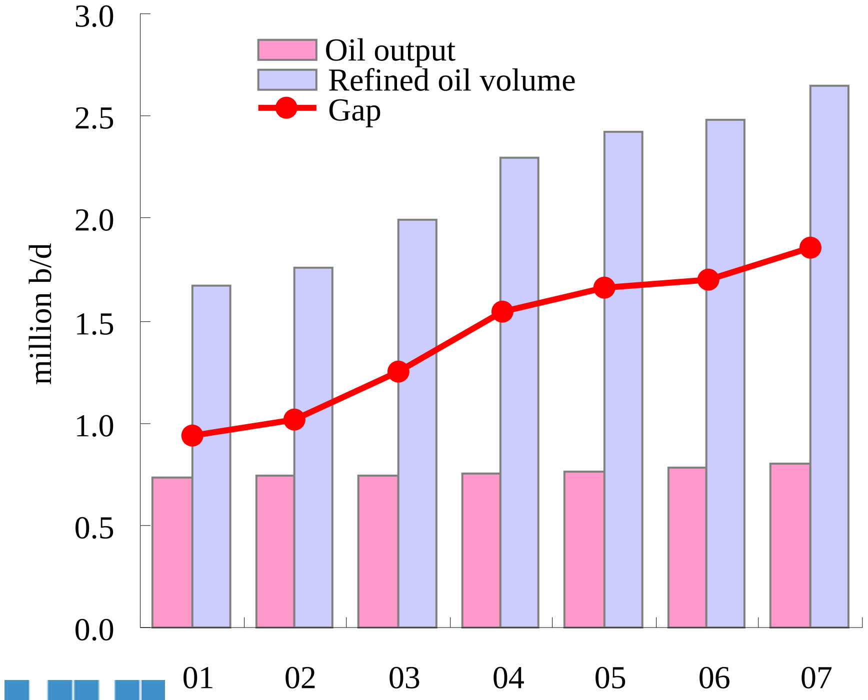
- Early implementation of Sichuan Province gas development and Sichuan-East Gas pipeline construction is important.
  - Cooperating with CNOOC in Guangdong
  - Lagging behind other NOCs in developing LNG terminals



Effects of Price Control

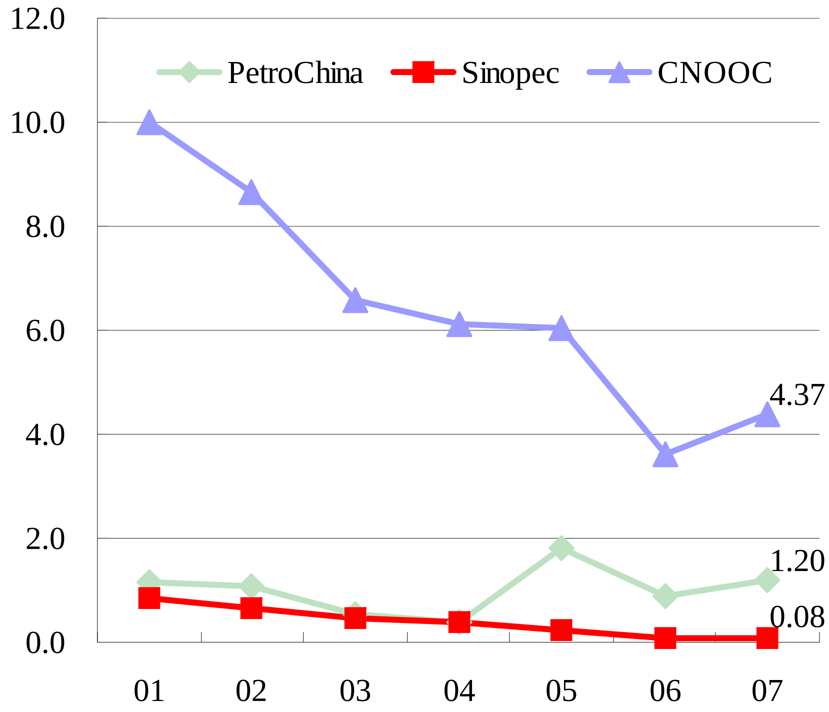
- Business liquidity has been deteriorating on a widening capacity gap between upstream and downstream sectors, reverse profit margins on domestic petroleum product prices and high capital expenditure growth.

Changes in Gap between Oil Output and Refined Oil Volume at Sinopec



Source: Sinopec annual report

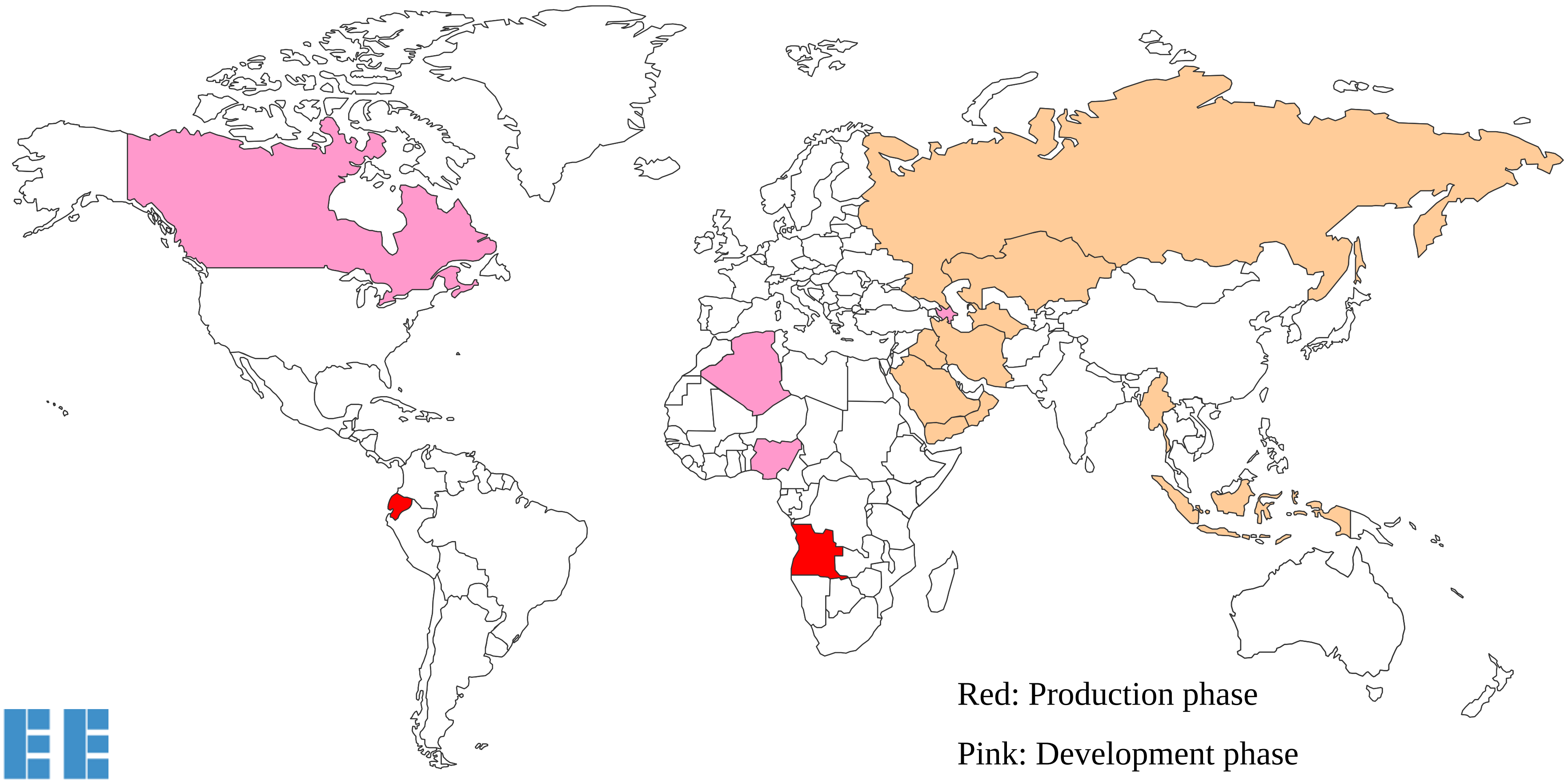
Changes in Liquidity Ratios at NOCs



Sources: NOC annual reports

Slack Overseas Expansion

- Sinopec has made no major overseas investment recently in the wake of past investments in the Middle East, Africa and the former Soviet Union (see p.21).
  - Sinopec has recently tried in vain to acquire Russia's Imperial Energy.



Red: Production phase

Pink: Development phase

Light brown: In or before exploration phase

SWOT Analysis of CNOOC

Strengths	Weaknesses
✓ <u>Domestic offshore oil/gas development knowledge and experiences</u> ✓ <u>Robust balance sheet</u> ✓ Leading in obtainment of LNG terminal construction approvals	✓ <u>Lack of access to finished product markets</u> ✓ <u>Small corporate and asset sizes</u>
Opportunities	**Threats**
✓ <u>Revenue growth on higher oil prices</u> ✓ Growing environmental consciousness to support demand for natural gas	✓ <u>Rising LNG</u> ✓ <u>CNPC's expansion into LNG operations</u> ✓ Deterioration of overseas upstream sector investment environments ✓ Evaluation and reputation risks in overseas upstream sector investment

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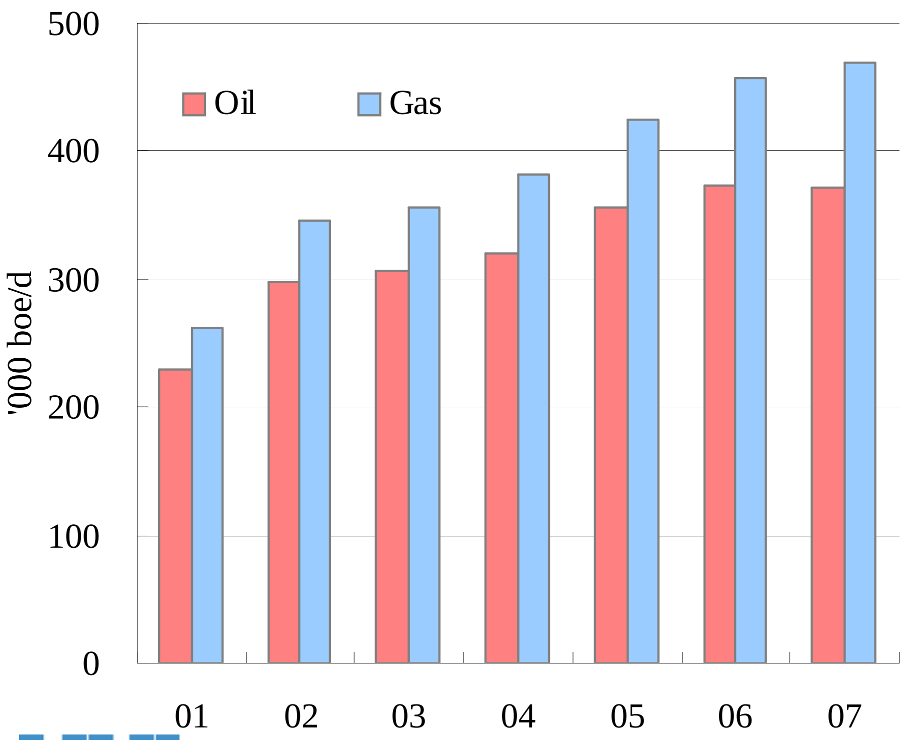
Growing Production at Offshore Oilfields

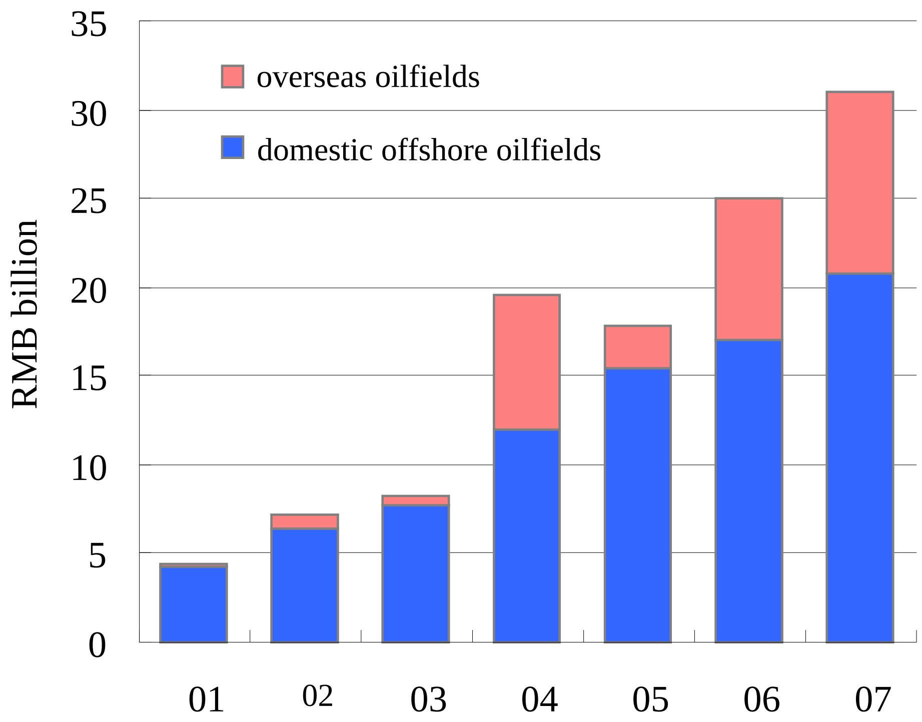
- Capital expenditures in the domestic upstream sector have steadily increased.

Changes in CNOOC's Oil/Gas Output



Source: CNOOC annual report

Changes in CNOOC's Upstream Sector Investments



Source: CNOOC annual report

Strong Willingness to Implement Vertical Integration

- Oil refining
  - Planning to expand crude oil refining capacity to 600,000 b/d by 2010, to 800,000 b/d by 2015 and to 1.4 million b/d by 2020
  - Huizhou Refinery (240,000 b/d, completion set for October 2008, capacity-doubling plan)
  - Developing oil refining and sales networks in Shandong Province close to proprietary oilfields
- Petrochemical operations
  - Ethylene plant in Huizhou (in operation)
- LNG terminals
  - Guangdong (in operation), Fujian (for completion in 2008), Shanghai (for completion in 2009) , and five other terminals are under planning.
- Others
  - Expanding into power generation projects accompanying LNG terminals (a gas and power business model)
  - Planning to invest 21 billion yuan ($2.76 billion) in Shandong Province’s wind power generation project (a renewable energy project for a post-fossil fuel age)

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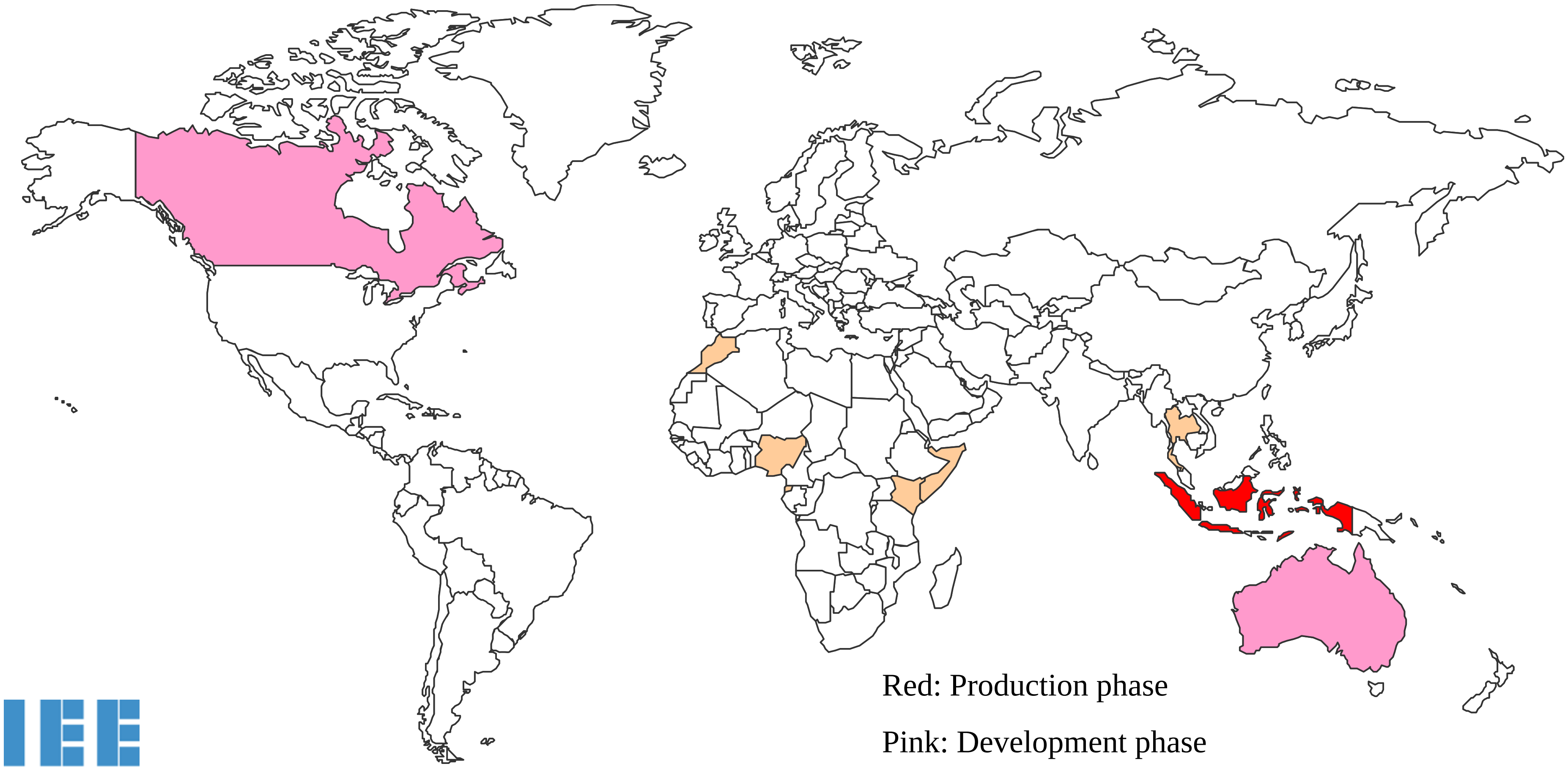
Expanding into Southern Gas Market

- Securing gas supply
  - Domestic gas output increasing steadily
  - Overseas LNG procurement
- Developing pipeline networks based on LNG terminals
  - Seeking to expand gas supply for utility services in such cities as Shenzhen and Guangzhou
  - Planning to construct a pipeline between Hainan and Shanghai
- Cooperation with Sinopec
  - In June 2007, CNOOC and Sinopec signed an agreement on their cooperation in gas supply for the southern market. They are jointly developing a pipeline network in Guangzhou.

Targeted Overseas Investment

- Investment targets center on gas assets in the Asia-Pacific region.
  - Deals to barter gas procurement for interests in gas fields have recently been slack.



Red: Production phase

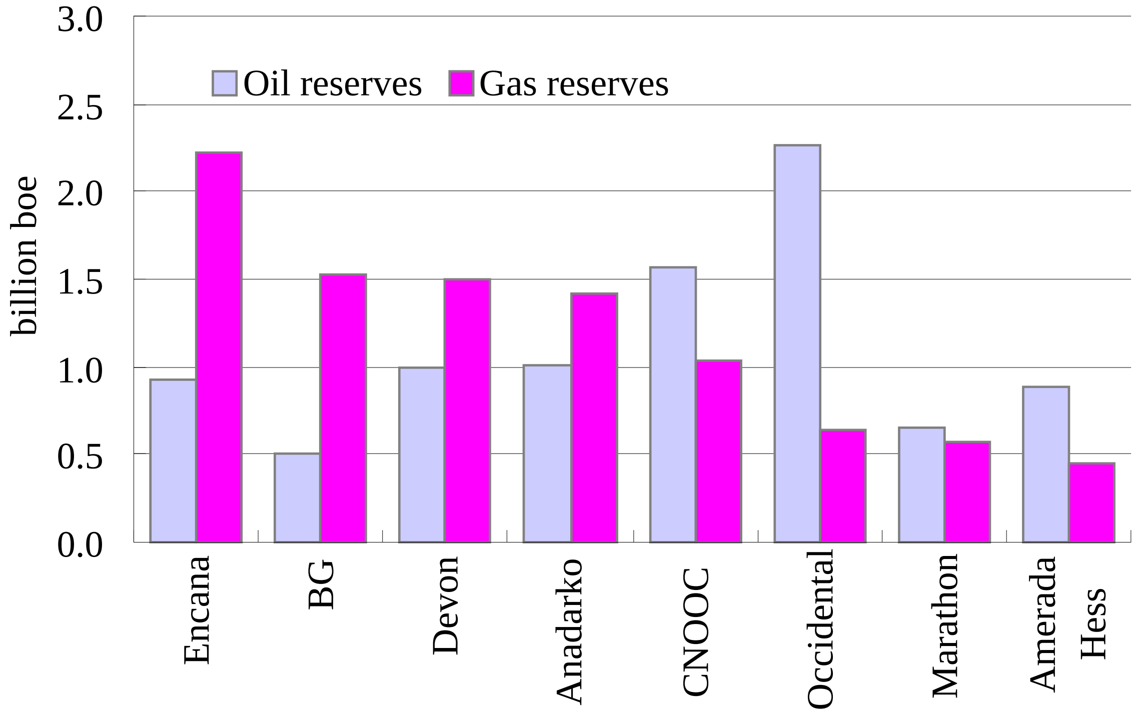
Pink: Development phase

Light brown: In or before exploration phase

Overseas M&A Operations

- Taking advantage of high liquidity (see p.26) to pursue overseas merger and acquisition opportunities with a view to expanding proprietary gas reserves and acquiring deepwater oil development know-how.
  - In July 2008, CNOOC acquired Norwegian services provider Awilco for $2.5 billion.

CNOOC's Gas Reserves Are Relatively Less than Those of Other Independent Firms



Sources: annual reports of relevant companies

Overview of NOC Strategies

- CNPC
  - Seeking to join oil multinationals for global business operations
  - Keeping firm domestic market positions, planning to gradually expand into the southeastern market
  - CNPC is expected to focus on a limited range of overseas investment targets while promoting global expansion.
- Sinopec
  - Looking for its desirable direction
  - Continuing a defensive posture regarding its domestic markets on deterioration of domestic business profitability
  - Giving priority to expansion of domestic downstream capacity for the immediate future while toning down overseas expansion
- CNOOC
  - Seeking to become a competitive “vertically integrated independent enterprise”
  - The tightening LNG supply/demand balance and spot price hikes are matters of serious concern to CNOOC.
  - Continuing overseas expansion targeting gas assets and deepwater oil development know-how

Conclusion and Outlook

Conclusion

- Chinese NOCs Realizing Present Socialist Market Economy
  - As a government-controlled bureaucracy, the NOCs are conducting business operations based on government policies.
  - But the NOCs' daily business operations feature strong independence. Rather, they are utilizing the government to their advantage in some cases.
  - The NOCs have steadily improved their competitiveness over the past decade. Particularly, their competitiveness growth in the downstream sector has been remarkable.

- Each NOC Follows An Inherent Strategy Reflecting Its SWOT Picture
  - All the NOCs give top priority to <u>maintaining and enhancing traditional domestic strengths </u>that they have taken over from their respective predecessors. CNPC/PetroChina and Sinopec are trying mainly to take advantage of their respective opportunities, while CNOOC is concentrating its efforts in overcoming weaknesses.
  - The NOCs' overseas operations reflect their respective domestic business conditions (domestic production, strengths and financial conditions).

Future Outlook

- Chinese NOCs to Remain Main Players in International Market
  - In the future, they will increase their presence as Middle East crude oil and LNG buyers.
- Domestic Market Trends
  - Their competition in the domestic market will continue. The degree of the CNPC/PetroChina offensive against the others' strengths holds the key to their future.
- Future Overseas Expansion
  - Over a short term, the NOCs will select and focus on the best overseas expansion projects. As investment climates deteriorate, the NOCs may try to cooperate with each other or use government diplomacy.
  - Domestic demand expansion, maturing domestic oilfields and other factors for their overseas expansion will remain unchanged. Over a medium to long term, they may resume aggressive overseas asset acquisitions.

Thank you.

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