



# 南海东部海域勘探开发实践

## Exploration and Development Status of Pearl River Mouth Basin, South China Sea.

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2015年9月17日 重庆

Sep 17, 2015 CHONGQING



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**南海东部石油管理局基本情况**

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# Company Profile



**CNOOC is the largest producer of offshore crude oil and natural gas in China and one of the largest independent oil and gas exploration and production companies in the world.**

**The Group's core operation areas are BoHai, Western South China Sea, Eastern South China Sea and East China Sea in offshore China. Overseas, the Group has oil and gas assets in Asia, Africa, North America, South America, Oceania and Europe.**



# Company Profile

## **4.48 Billion BOE**

Reserves of approximately 4.43 billion BOE

## **1,184,977 BOE**

Its average daily net production was 1,184,977 BOE

## **17,553 Employees**

The Group had 17,553 employees

## **RMB 662.86 Billion**

Total assets of approximately RMB662.86 billion

As at 31 December 2014, the Group owned net proved reserves of approximately 4.48 billion BOE, and its average daily net production was 1,184,977 BOE (unless otherwise stated, all amounts of reserve and production in this report include our interests in equity method investees). The Group had total assets of approximately RMB662.86 billion.





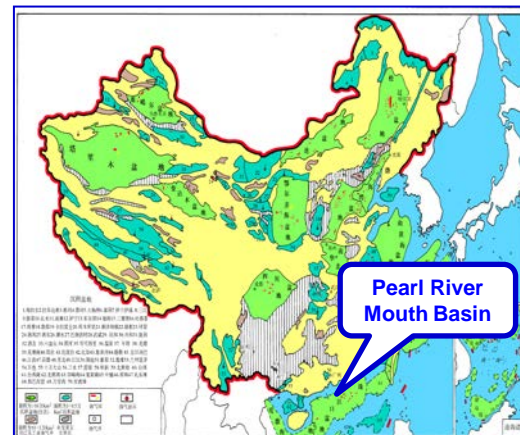
# CNOOC SZ Branch Overview

Name **CNOOC China Ltd.\_ Shenzhen**

Established in **2000**

Staff:**3,500** (in 2014)

Engaged in oil and gas exploration, development and production through joint venturing and independent operation in the eastern area of South China Sea.





# Company History

1981

**Pearl River  
Mouth  
Preparation  
Agency**

1983

**CNOOC Nanhai East  
Corporation**

1999

**CNOOC  
China Ltd.\_  
Shenzhen**

2009

**CNOOC NanHai  
East Petroleum  
Bureau**

- Since the establishment of CNOOC Nanhai East Corporation in June 1983, we have established cooperation with 14 countries and regions (Including America, Japan, Britain, France, Italy, Norway) and more than 50 companies for the exploration and development of oil and gas resources in the eastern area of the South China Sea .
- Since 1990, the first cooperative oil field set on production, we have put more than 25 Oil Fields and 5 Gas Fields successfully into production. By the end of 2014, we had for 19 consecutive years achieved equivalent oil and gas production of over 10 million cubic meters annually.
- In the process of developing international cooperation, the advanced technology and management were introduced from international oil companies. Through the combination of practice and experience, we have formed our unique management style with win-win culture.



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# 勘探历程 Exploration History

**Phase 1: regional prospecting (油气区域普查 before 1979) ;**

**Phase 2: cooperative exploration (对外合作 1980-2000) ;**

**Phase 3: independent & cooperative exploration (自营合作并举 since 2000) ;**

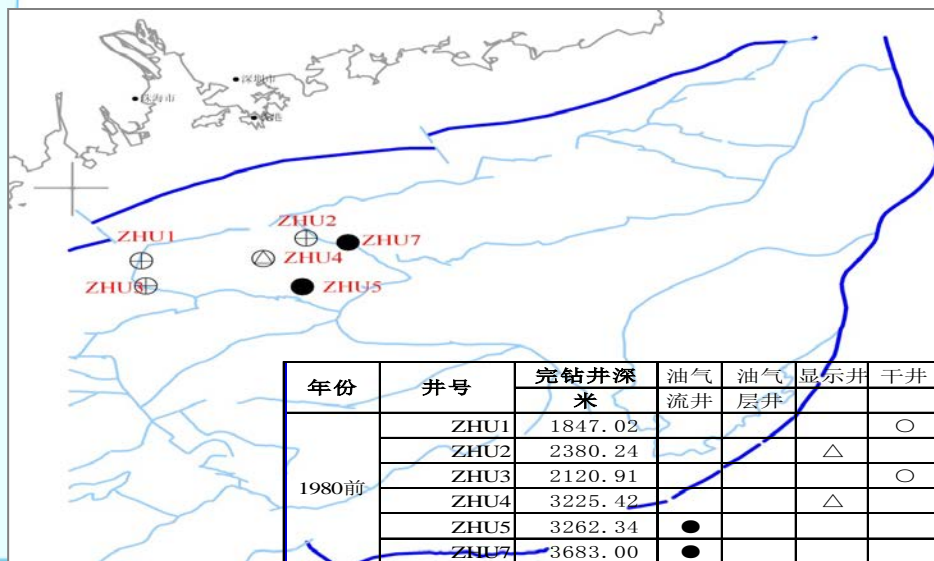




# Phase 1: regional prospecting

The petroleum and geology units conducted gravitational prospecting, magnetic prospecting and seismic acquisition from 1974 to 1976 in south China sea.

Seven wild cat were drilled during 1977 to 1980. The well Zhu 5 has got the successful DST test with 1,822 barrels oil per day.





## Phase 2: cooperative exploration (1980-2000)



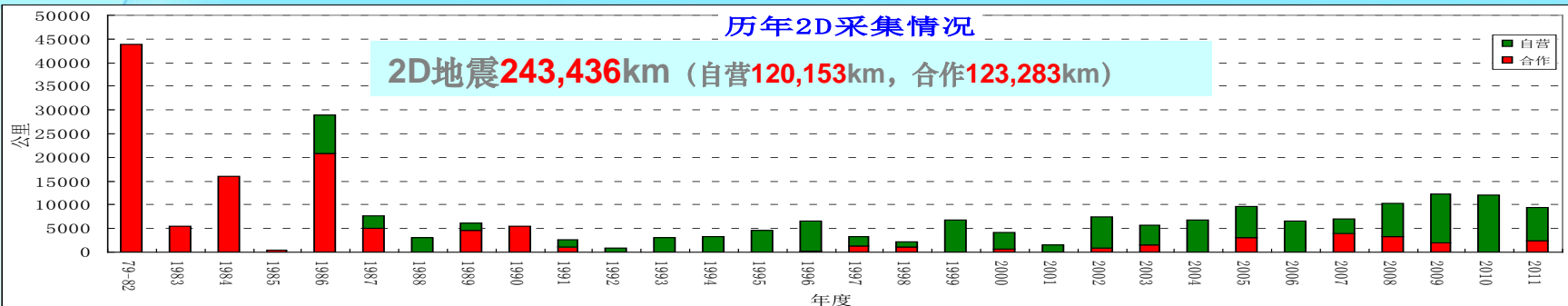
When the **State Council** implemented the Regulation of the Petroleum Resources in Cooperation with Foreign Enterprises on January 30, 1982, CNOOC was incorporated and authorized to assume overall responsibility for the exploitation of oil and gas resources of offshore China in cooperation with foreign partners. Since 1980, numerous seismic campaigns (2D & 3D) have been carried out, and more than 250 exploration and appraisal wells have been drilled.



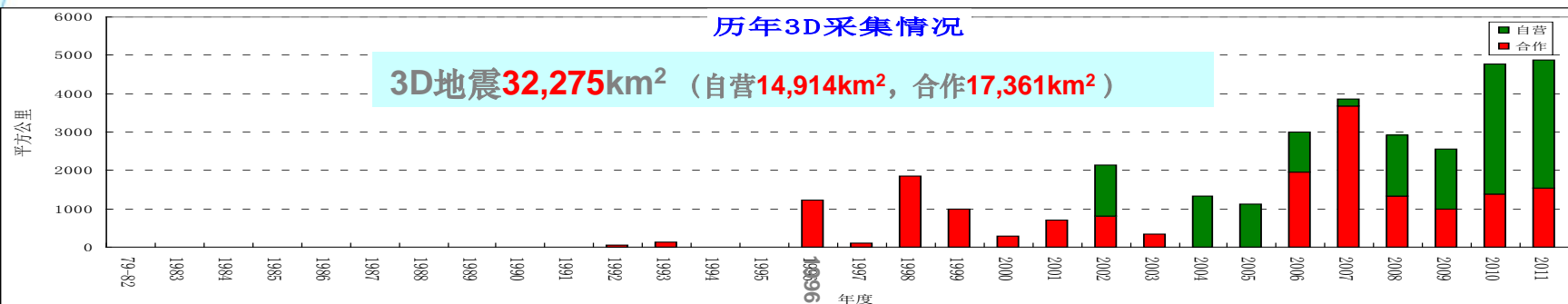


## Phase 3: Independent & Cooperative Exploration (since 2000)

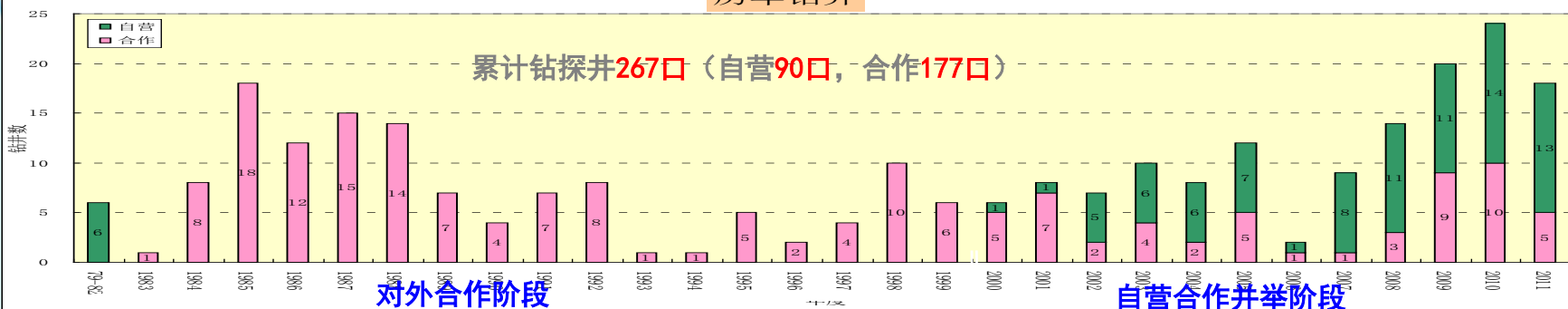
历年2D采集情况



历年3D采集情况



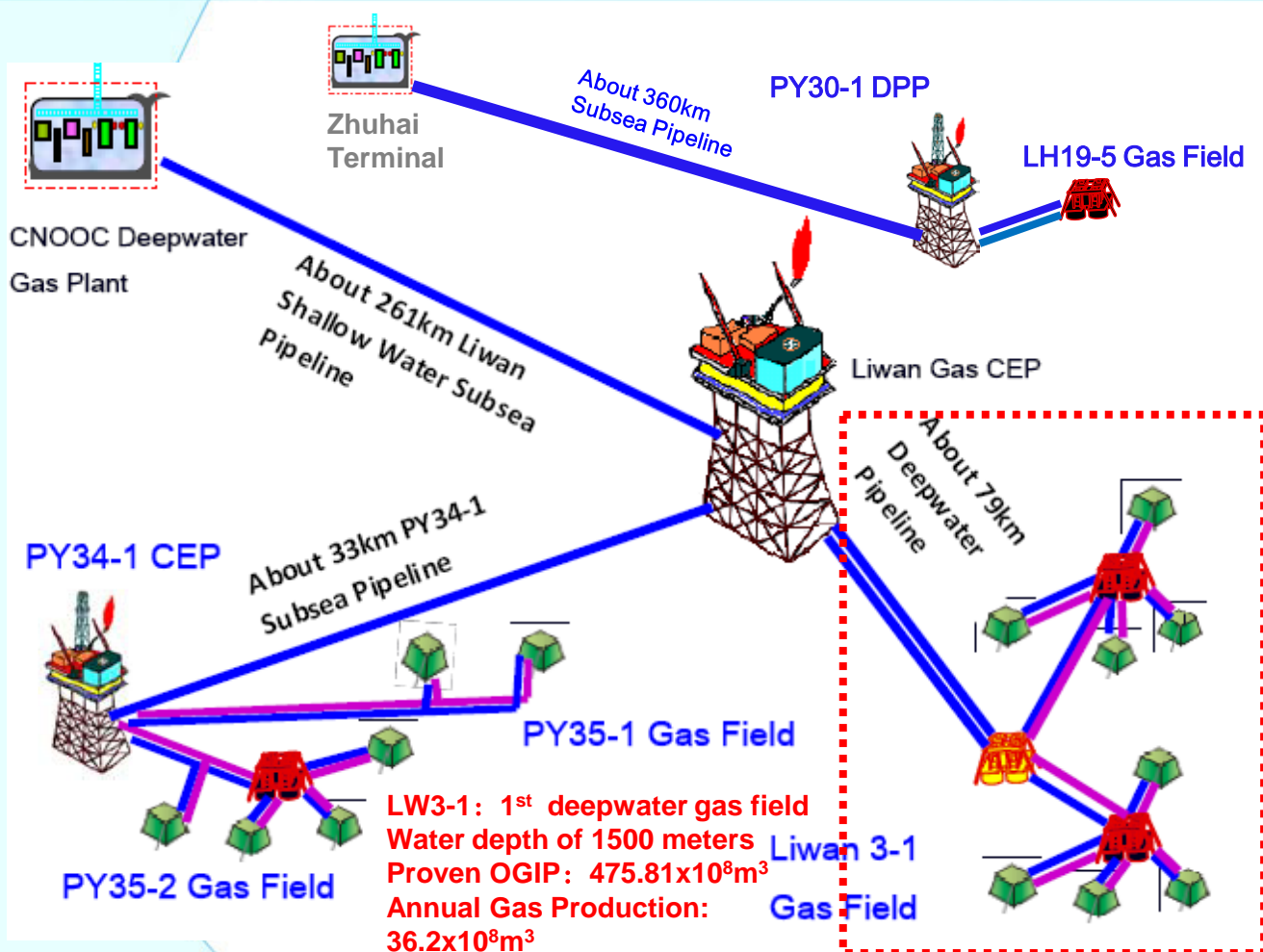
历年钻井







## Phase 3: Independent & Cooperative Exploration (since 2000)



BY-LW deepwater area in Pearl River Mouth basin lies on a slope zone along the northern shelf margin, South China Sea. It has been proved by the recent several gas discoveries on the north slope of BY-sag and the breakthrough in LW3-1 gas area that this sag is abundant in hydrocarbon generation.

More than 10 gas fields have been discovered in Southern part of the PRMB, the OGIP: 5.64 tcf.



# Reservoir & Development Characteristics



## Reservoir characteristics

Simple and integrated geometry

Good sand distribution

Adequate natural water energy

Light & low viscosity crude oil

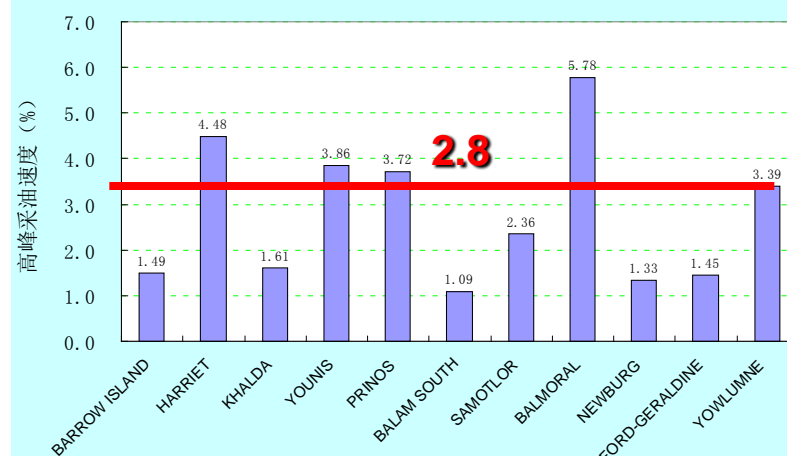
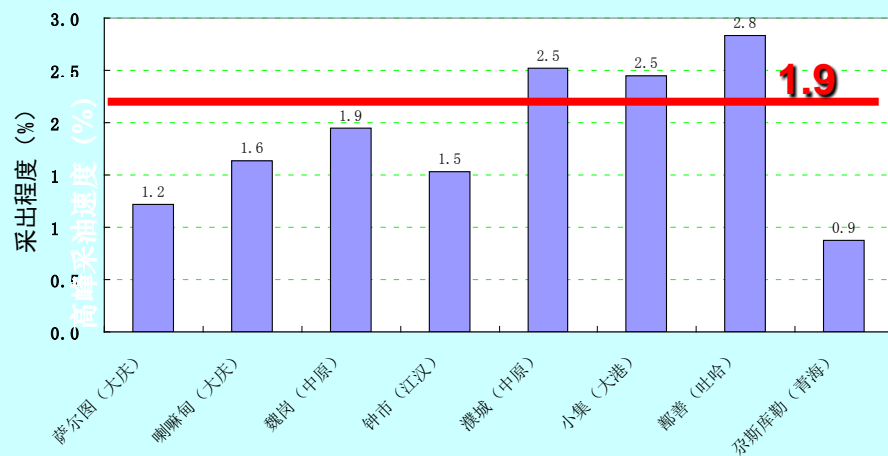
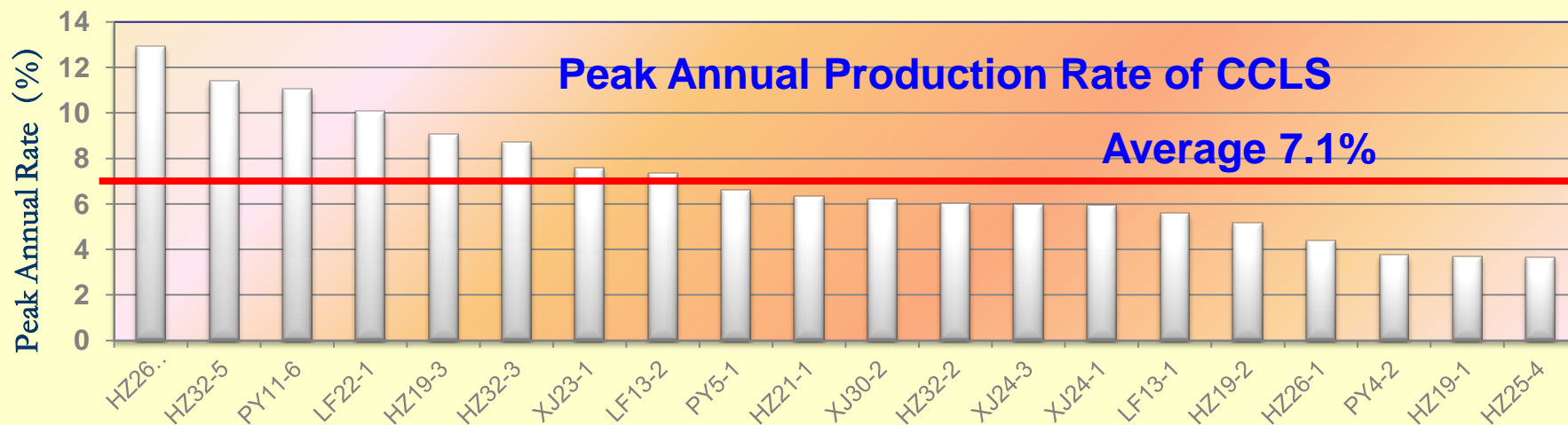
Robust Productivity

Bottom & edge reservoir dominate

High recovery rate & factor



# Development and Production Status



Production rate of Onshore Fields China

Production rate of Offshore Fields





# Development and Production Status

The operation area of CCLS is Pearl River Mouth Basin which locate at northern continental margin of South China Sea. Since the first oil of 1990, over 25 years operation experience.



■ **8** sets of oil and gas production systems

■ **27** Oil fields

■ **6** Gas fields

■ **365** Producing wells

■ Daily oil production :

**200 MSTB ( $3.2 \times 10^4 \text{m}^3$ )**

■ Daily gas production :

**400 MMcf ( $1130 \times 10^4 \text{m}^3$ )**

■ **WCT : 92.7%**

Note: As of Dec. 31, 2014



# Development and Production Status

**1979—1982**

**Construction Period**

**1983—1997**

**Fast growing period  
through international  
cooperation**

**1998—Now**

**Featuring both  
Independent operation  
and cooperation**

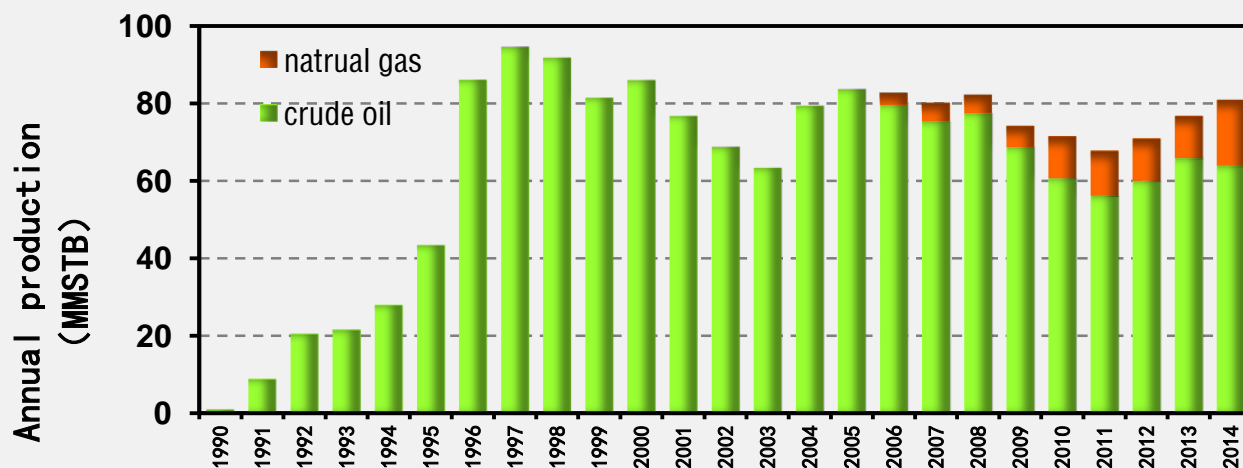




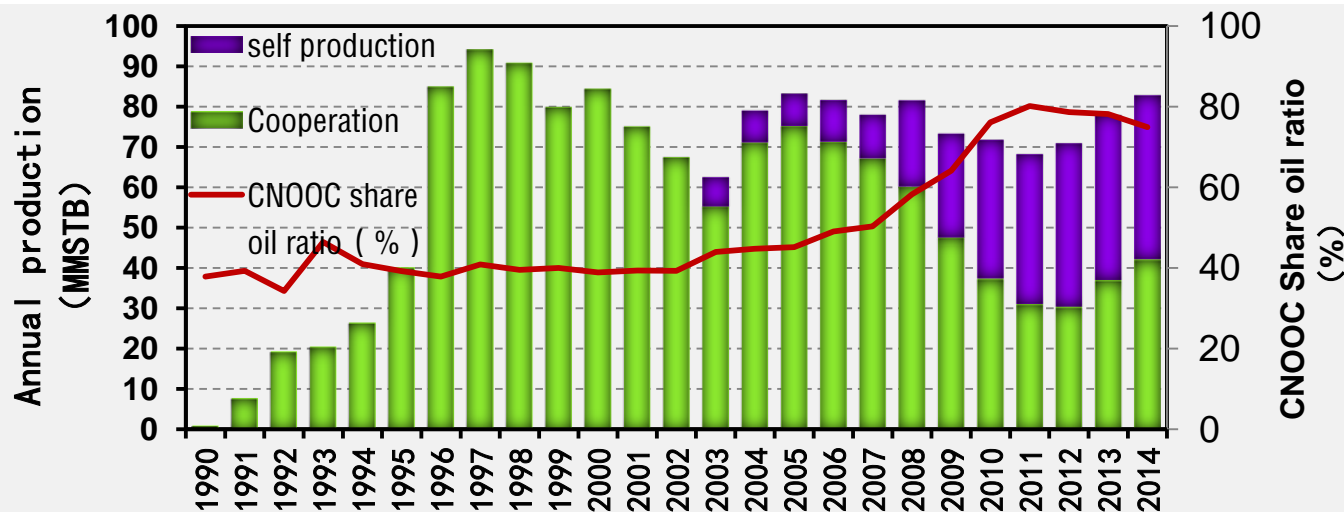


# Development and Production Status

From single  
crude oil  
production to oil  
and gas  
yielding  
simultaneously



From  
corporation to  
both  
Independent  
and  
corporation







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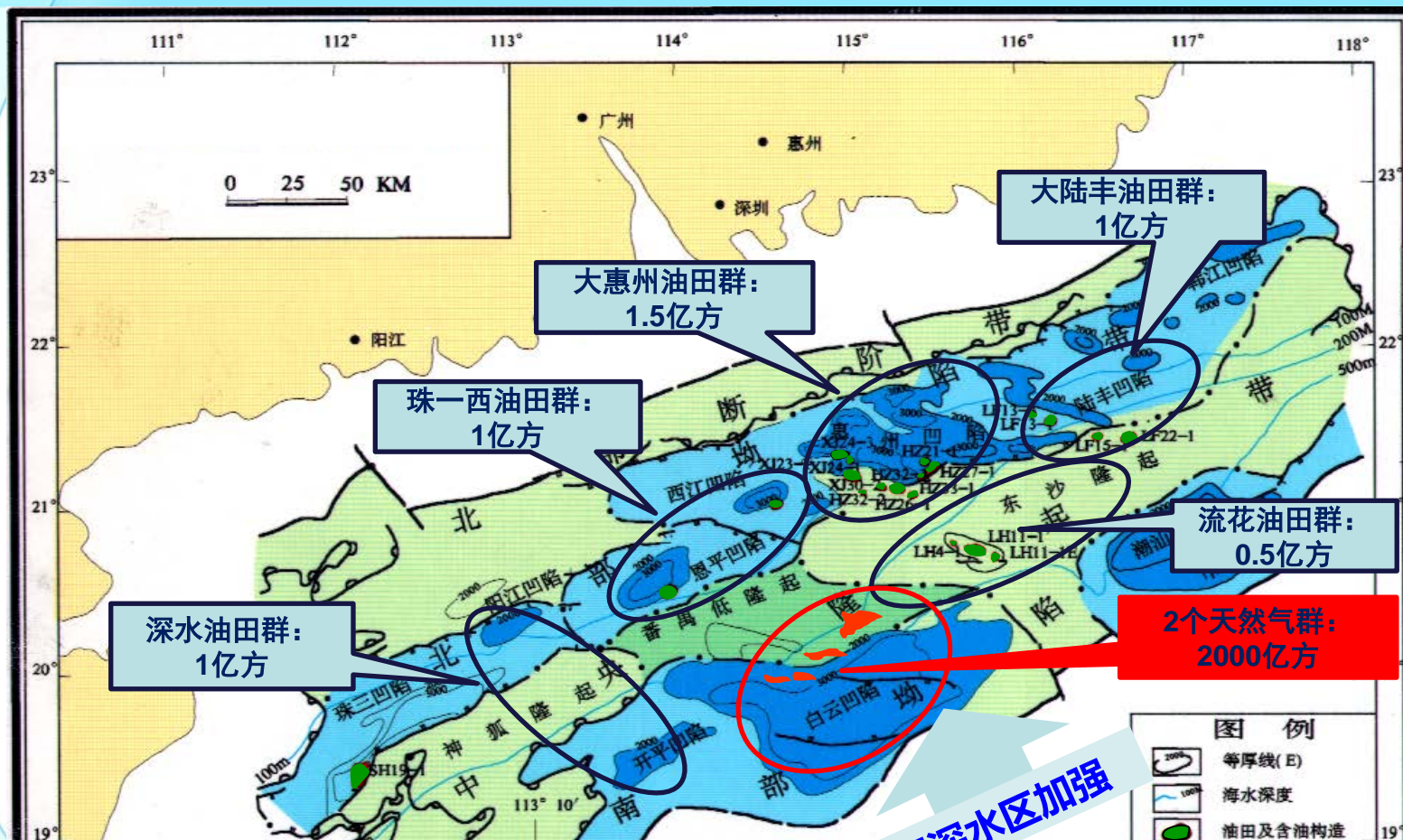
## The Second Leap Forward Development Programme

类 别	2015年	2020年
有限公司国内目标（万吨）	6,000-6,500	7,000
深圳分公司奋斗目标（万吨）	1591	1650

1. The 13<sup>th</sup> five years Oil and Gas development plan of CCLS was based on the Second Leap Forward Development Programme of CNOOC.
2. Relying on the existing facilities of deepwater gas project to push the gas production to higher level ( $70 \times 10^8 \text{m}^3$  per year);
3. Enhancing deepwater oil exploration and engineering innovation to keep oil production over  $1000 \times 10^4 \text{m}^3$ .



# Sustainable Development



Rolling exploration around developed shallow water area、strengthening exploration on mid-large size targets and combined new area exploration,  $50000 \times 10^4 \text{m}^3$  oil and 5.6 tcf gas resources are quite expectable in the next decade.



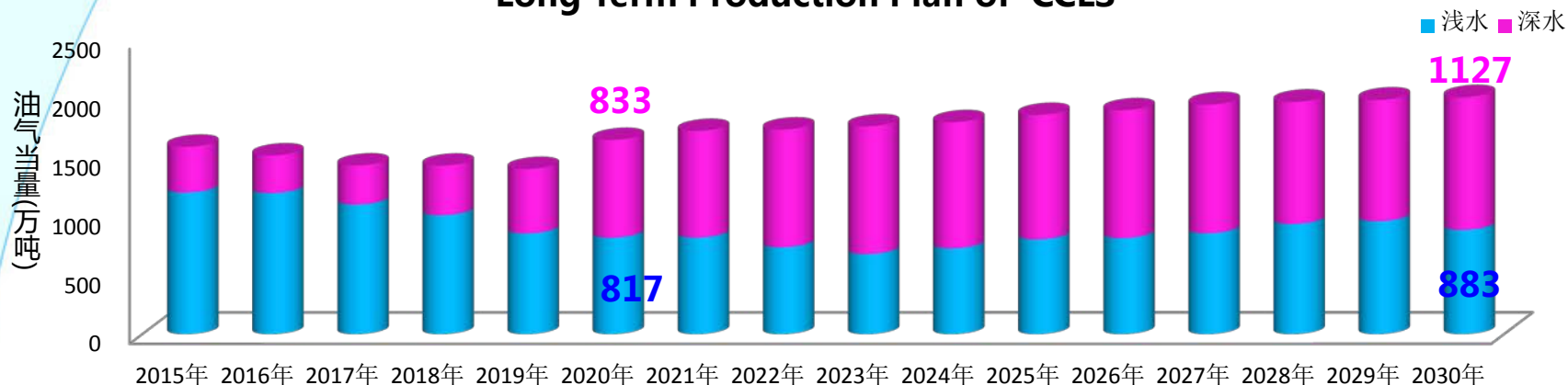




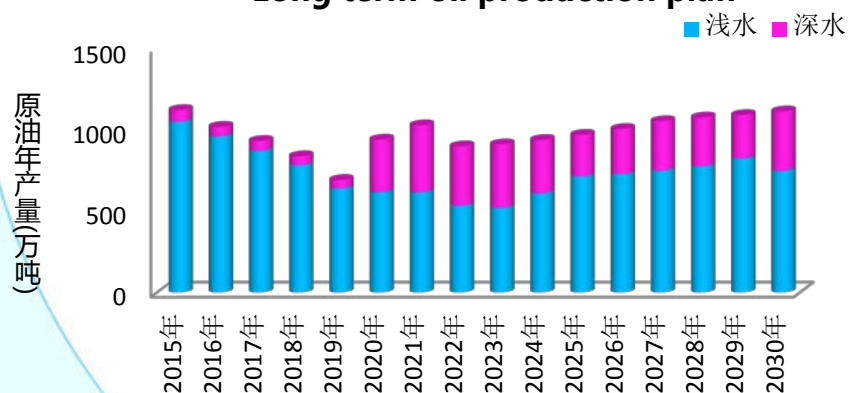


# Long term Development Programme

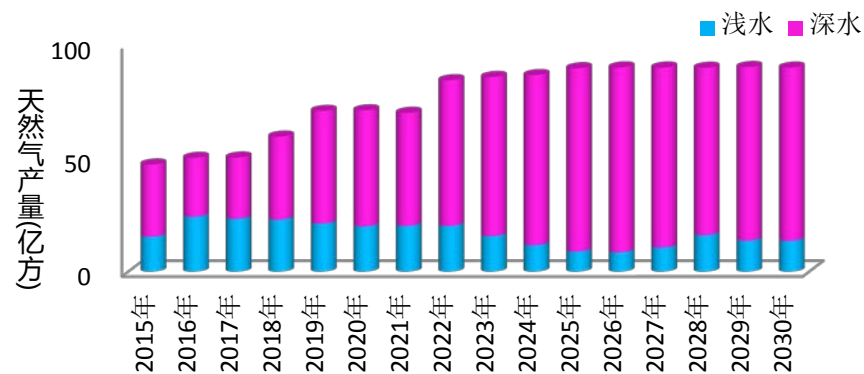
## Long Term Production Plan of CCLS



## Long term oil production plan



## Long term gas production plan







**THANKS!**  
**谢谢!**

[www.cnooc.com.cn](http://www.cnooc.com.cn)