

# Current Status and Development Trend of China's Natural Gas Market

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- Development Trend of China NG Market
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- Major Conclusions

## I Current Status of China NG Market

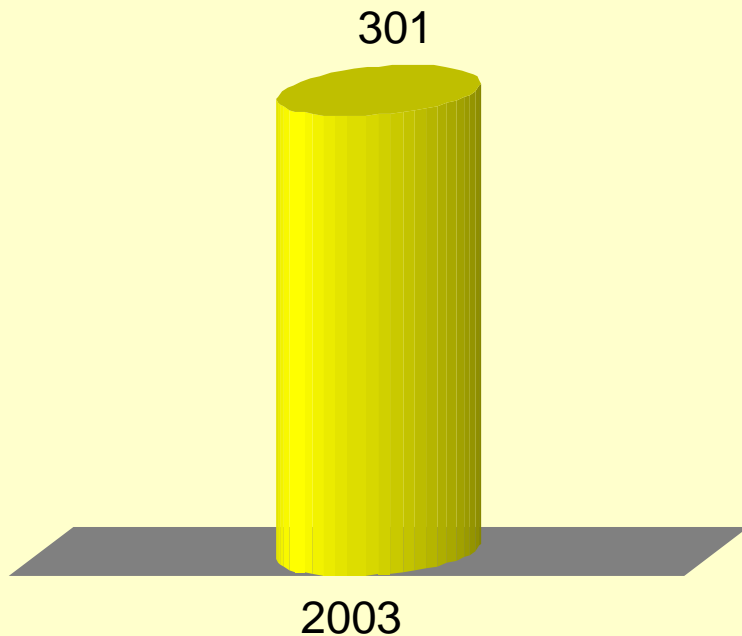
- Current status of NG consumption in China
- Principle factors for promoting development of NG market
- Problems to be solved

# 1. Current status of NG consumption in China

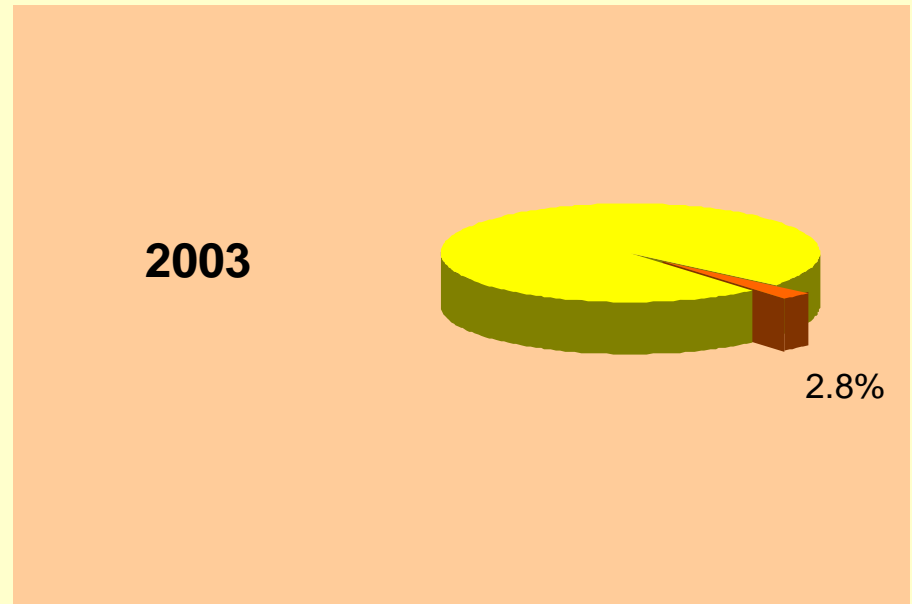
## 1) NG consumption in 2003

Total NG consumption in China 30.1 bcm, around 20 m<sup>3</sup> per capita  
1/20 of world average.

NG consumption (100 mmcm)



Ration of NG in primary energy

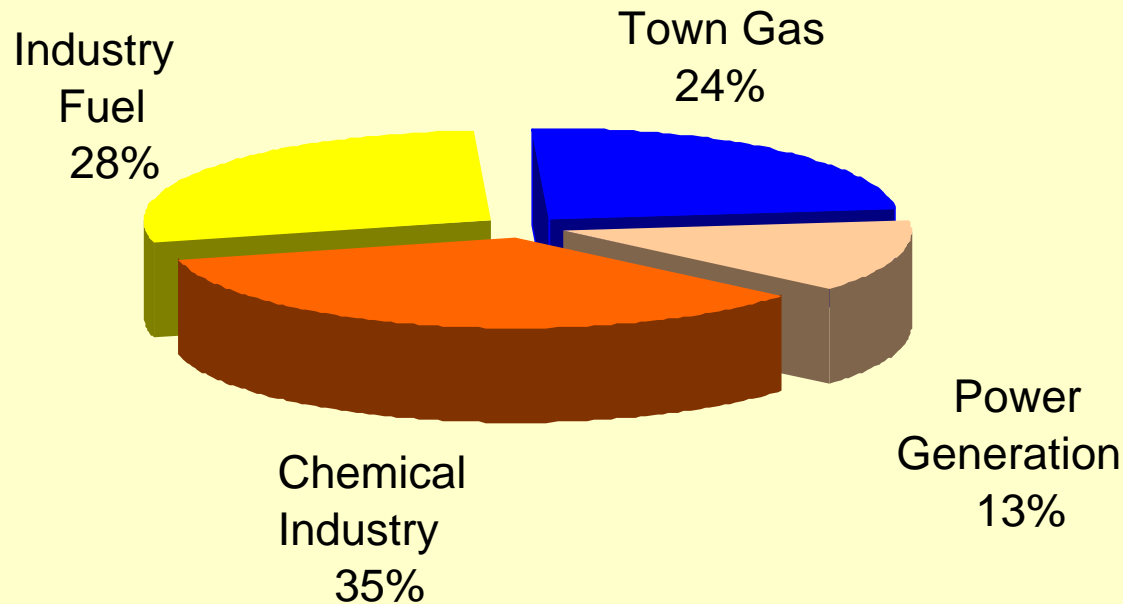


# 1. Current status of NG consumption in China

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## 2) NG consumption structure

The major NG consumer in China is chemical industry, and the secondary are industry fuel, town gas and power generation.



# 1.Current status of NG consumption in China

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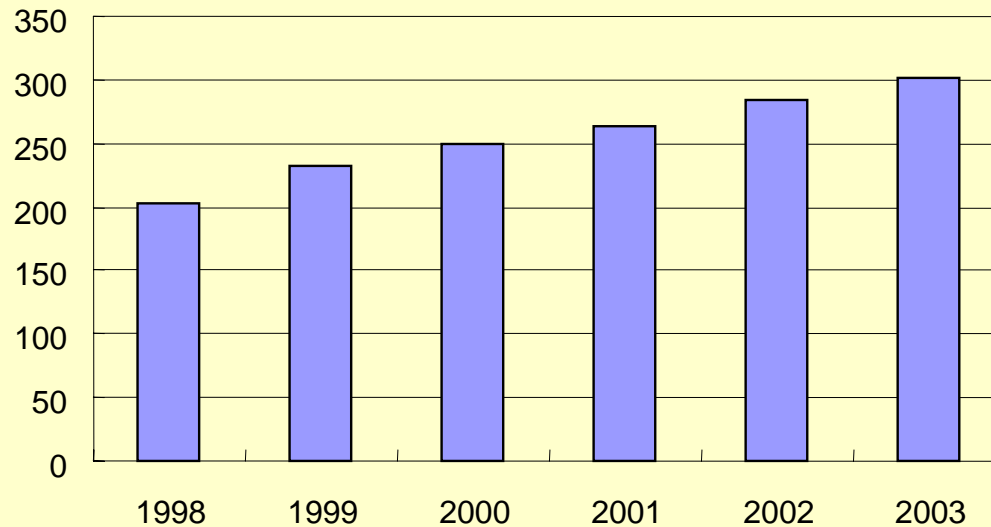
## 3)Distribution of NG consumption

NG consumption in China is around gas fields in principle, the consumption in southwest accounts for 1/3 of the total in whole China.

# 1.Current status of NG consumption in China

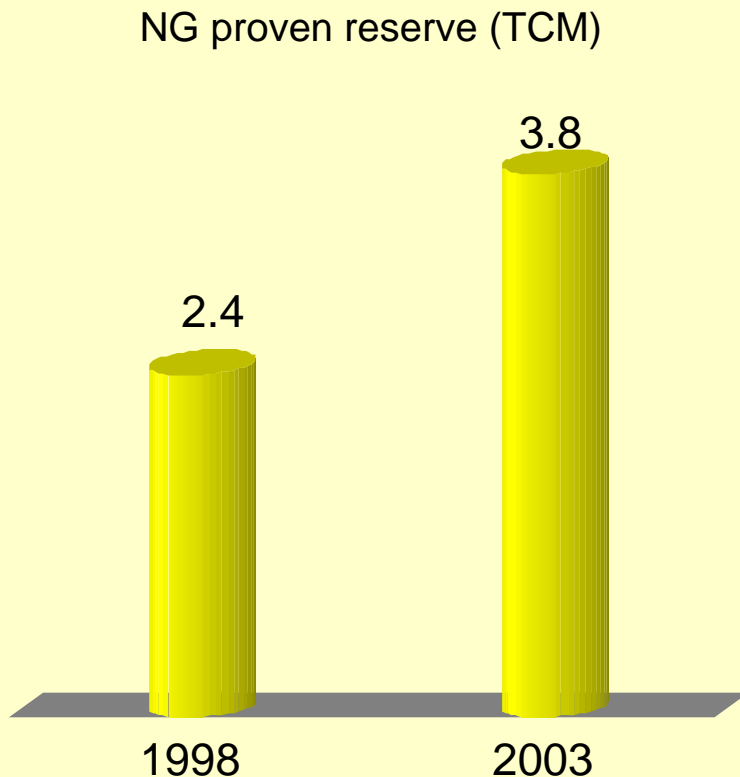
## 4)Increasing trend of NG consumption

In 1998 through 2003, the annual NG consumption increases by 2 bcm, with the rate of 8%.



## 2. Principle factors for promoting development of NG market

1) The proven NG reserve has been increased quickly since “8<sup>th</sup> 5-year period”, which lays a sound resource basis for rapid development



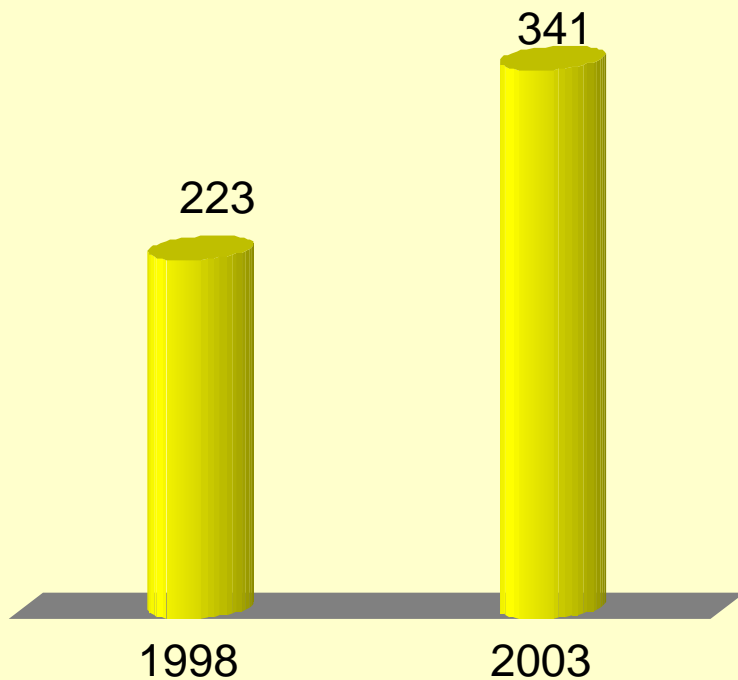
- Since “8<sup>th</sup> 5-year period”, the proven NG reserve has increased rapidly. The newly-added reserve in that period equals to the total of that in the past 40 years, and that in “9<sup>th</sup> 5-year period” doubled once again.
- 5 large NG resources have been formed, i.e. Sichuan, Erdos, Tarim, Qaidam and Yingqiong Sea.



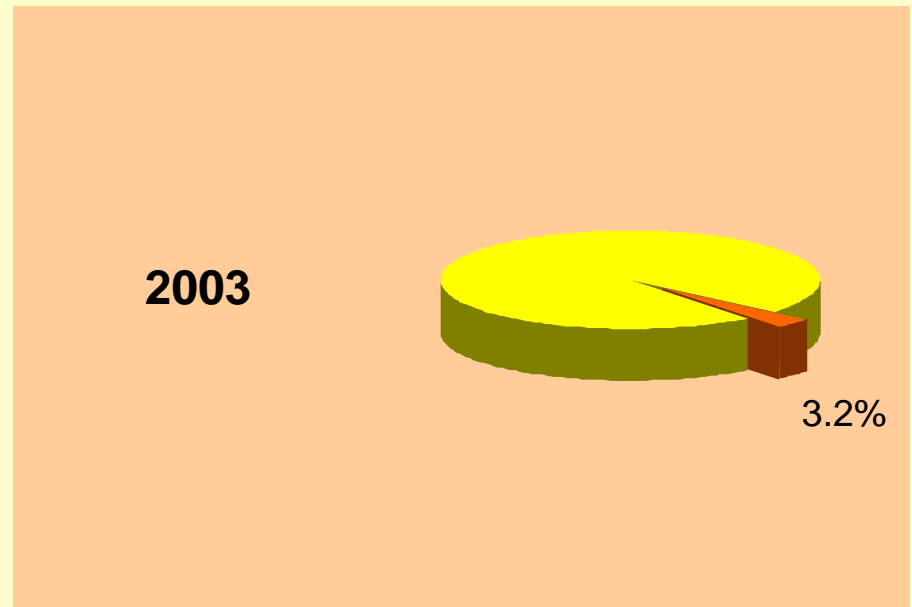
## 2. Principle factors for promoting development of NG market

2) Capacity and production of NG increase continuously.

NG Production (100 mmcm)



Ratio of NG in primary energy



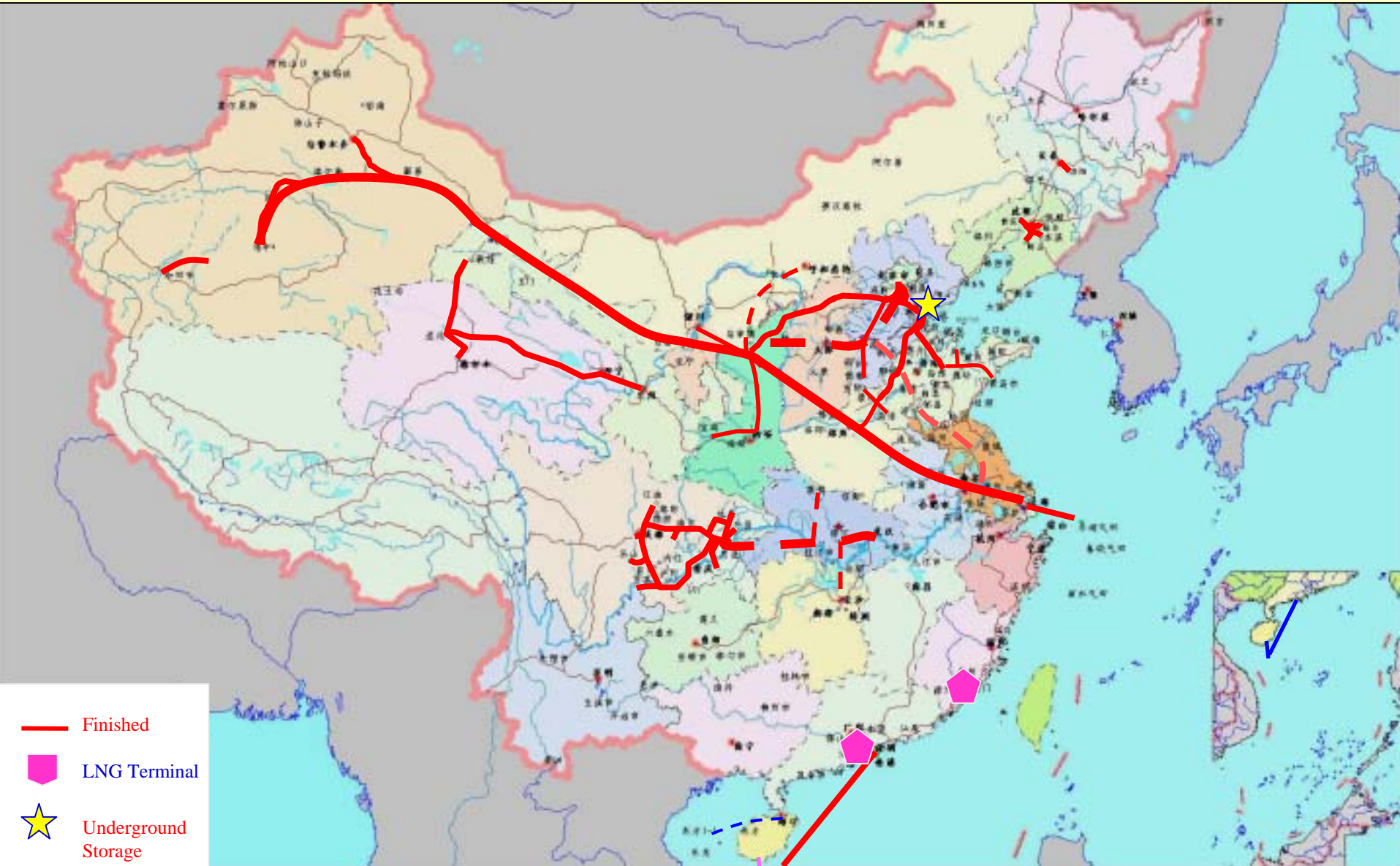
## 2. Principle factors for promoting development of NG market

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3) NG infrastructure is improved continuously, regional network such as Sichuan-Chongqing and North China have been formed.

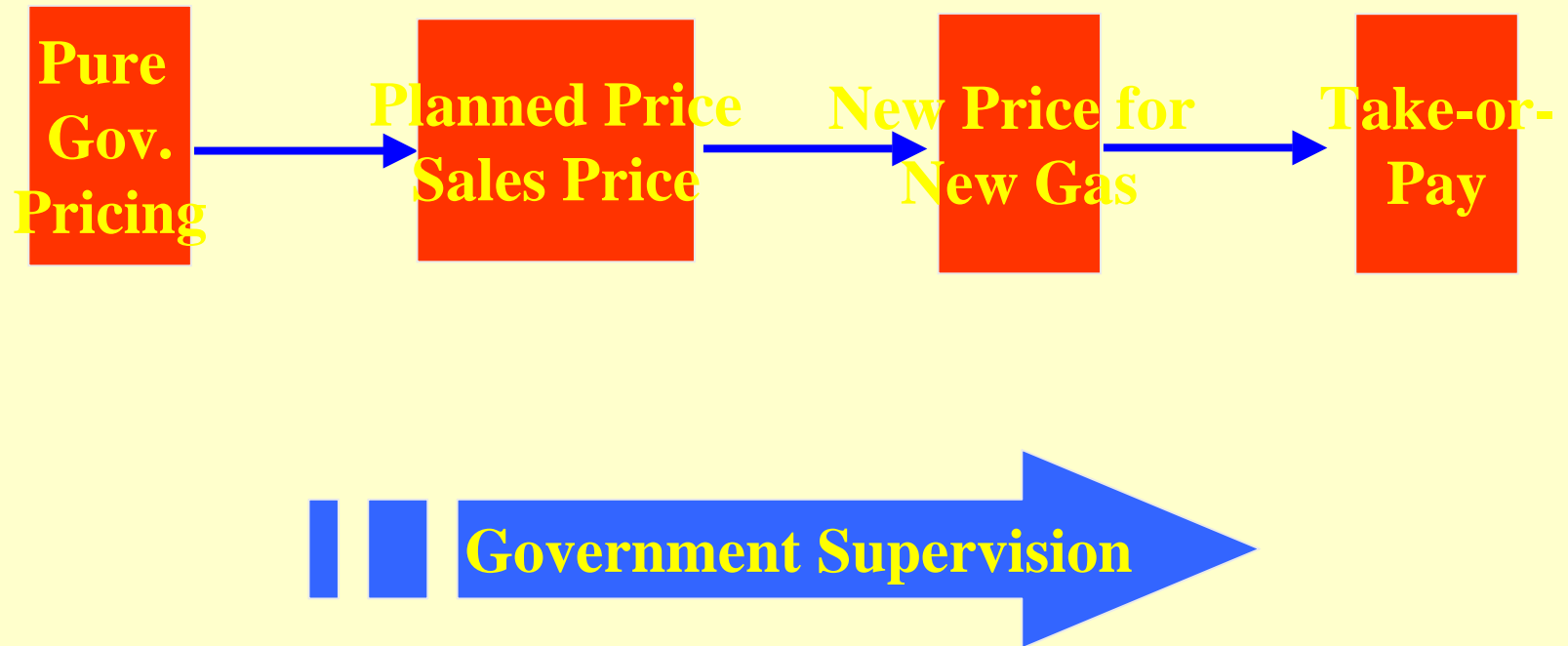
- As of the end of 2003, the total length of NG pipeline is 21,000 km. More than 5000 km new pipeline was built from 1998 through 2003.
- Up to the end of 2003, there is 1.4 bcm effective working gas volume in underground storage.
- The pipeline is mainly distributed in Sichuan, Chongqing and North China areas, regional network has been established.

# China's NG Pipeline Network



## 2. Principle factors for promoting development of NG market

4) NG pricing system is improving



## 2. Principle factors for promoting development of NG market

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### 5) Government attaches unprecedented importance to NG

- Sept., 1998, first “Nation-wide NG Utilization Planning Meeting” was held.
- Feb. 14, 2000, State Council decided to start West Gas to East project.
- Demand on NG is stimulated by two factors, i.e. people’s higher requirement on environment and government’s attention.

### 3.Problems to Be Solved

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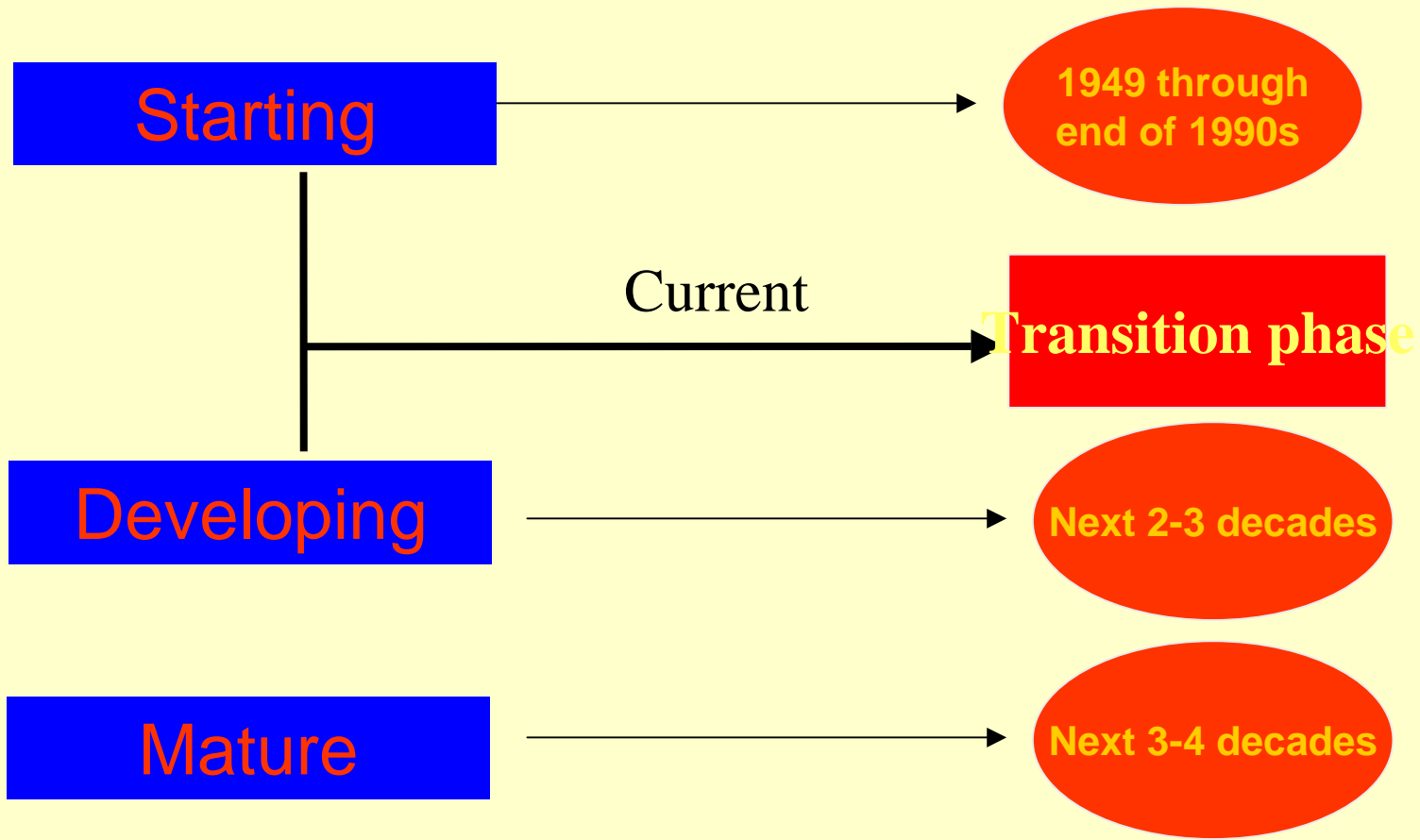
- NG strategic status and policy need to be clarified
- Domestic NG supply is insufficient
- NG infrastructure is not perfect
- More efforts are needed to strengthen the development of NG market
- NG pricing system needs to be perfected
- There is no complete supervisory frame for the industry

## II Development Trend of China's NG Market

- NG market development phases and trend of utilization
- Demand forecast of NG utilization sector
- Nation-wide demand forecast

# 1. NG market development phases and trend of utilization

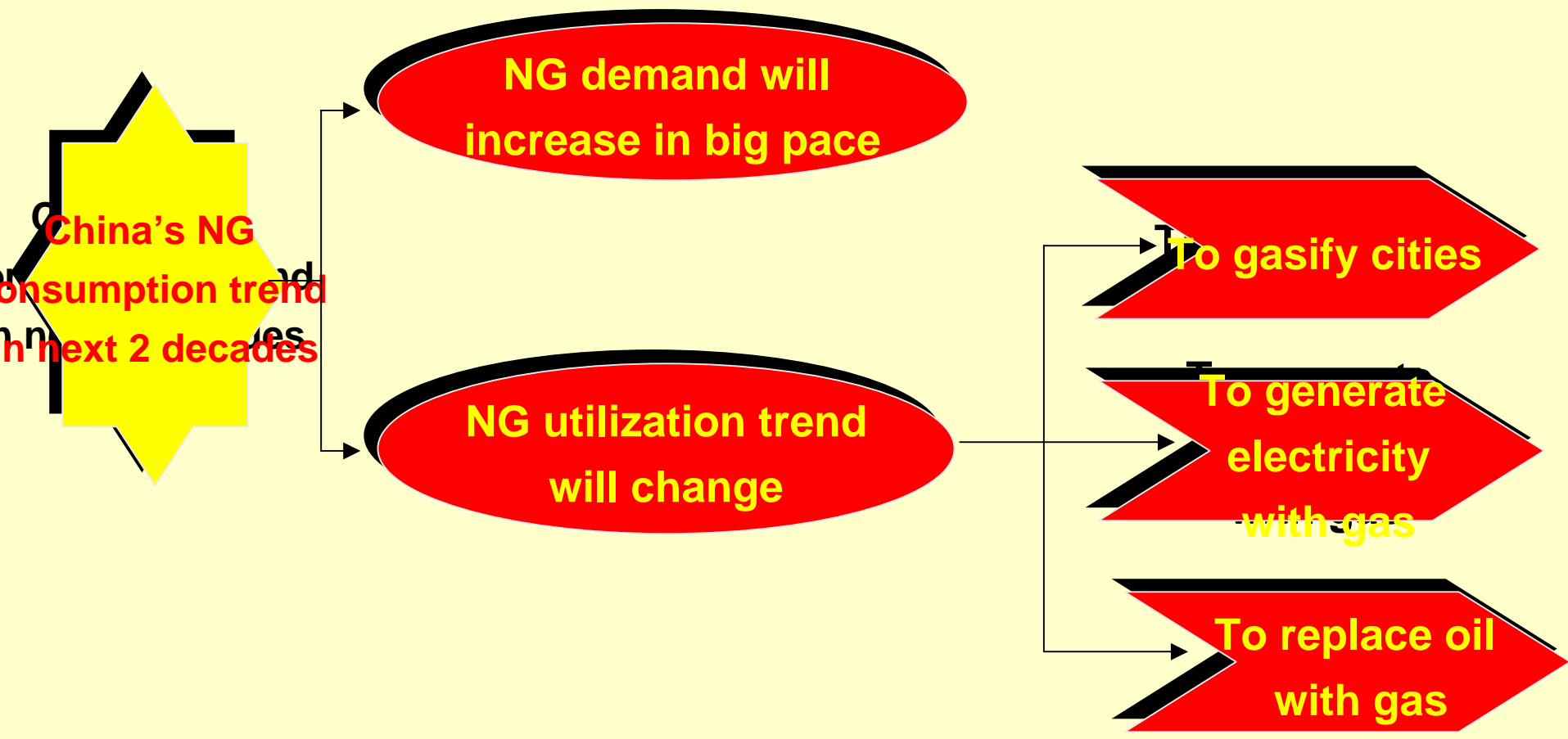
## 1) Positioning of NG market development phases





# 1. NG market development phases and trend of utilization

## 2) NG consumption trend



## 2. Demand forecast of NG utilization sector

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### 1) Town gas

It is predicted that town gas consumption will be 60.8 bcm in 2020, if change of urbanization is not considered

## 2. Demand forecast of NG utilization sector

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### 2) Gas-fired power generation

It is estimated that the gas used for power generation will reach 34.5 bcm in 2010 and 50-60 bcm in 2020

## 2. Demand forecast of NG utilization sector

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### 3) Chemical industry

It is predicted that in 2020, NG will be the raw material for 50% of annual synthetic ammonia (40 mm tons) and for 80% of methanol (8 mm tons), by adding 4 bcm consumption for other production, the total demand in this sector will be **30** bcm.

## 2. Demand forecast of NG utilization sector

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### 4) Industry fuel

As industry fuel, natural gas is mainly used in 4 sectors, i.e. crude oil processing, oil field production, metallurgy and construction material production.

It is estimated that NG consumption as fuel in 2020 will achieve 30 bcm.

### 3. Demand forecast of NG utilization sector

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- 1) NG demand in 2020, it will be 160—200 bcm.**
- 2) Town gas and power generation would be the major demand on NG, which would accounts for more than 60% of the total.**
- 3) It's estimated that domestic production could not satisfy the demand in 2010; and in 2020, 40% of demand would rely on import.**

## III Suggestions for Pushing the Development of China NG Market

- Industry status
- Resource guarantee
- Infrastructure
- Supervisory system
- Price relation
- Incentive policy

# 1.Industry status

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Improve the industry status of natural gas, and develop it to be one of the 3 pillar energy industries and new increasing point of national economy.

It's forecasted that it would be ideal if the ratio of natural gas in primary energy reaches 10%.



## 2.Resource guarantee

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Seize the opportunity, make full use of both domestic and international resources.

Cooperate with neighboring countries and import natural gas from them through pipeline; build up LNG terminals at the coastal area.

# 3. Infrastructure

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Construct advanced natural gas distribution and storage system.

In 2020, form up nation-wide natural gas trunk pipeline network and flexible supply configuration.

## 4. Supervisory system

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Establish modern natural gas supervisory system.

Set up natural gas legal frame.

## 5.Price relation

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Natural gas pricing system shall match international standard

Sort out the relationship between supply and demand

# 6. Incentive policy

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- 1) taxation
- 2) environment incentives
- 3) incentives for developing downstream complementary industry
- 4) finance
- 5) others

## IV Major Conclusions

- 1) The next 2 decades will be rapid development period of China's NG market, it's estimated that the demand in 2020 will be 200 bcm.**
- 2) From 2003 through 2020, annual NG consumption will increase 10 bcm with growth rate of 12%.**
- 3) It's predicted that major NG consumption will turn to town gas and power generation from chemical industry, and the first two will account for more than 60% of total NG demand.**
- 4) It's forecasted that the demand may only be satisfied by making full use of domestic NG and import.**
- 5) It's necessary to have policy support and relevant securing measures.**

Please make your comments

**Thanks**