

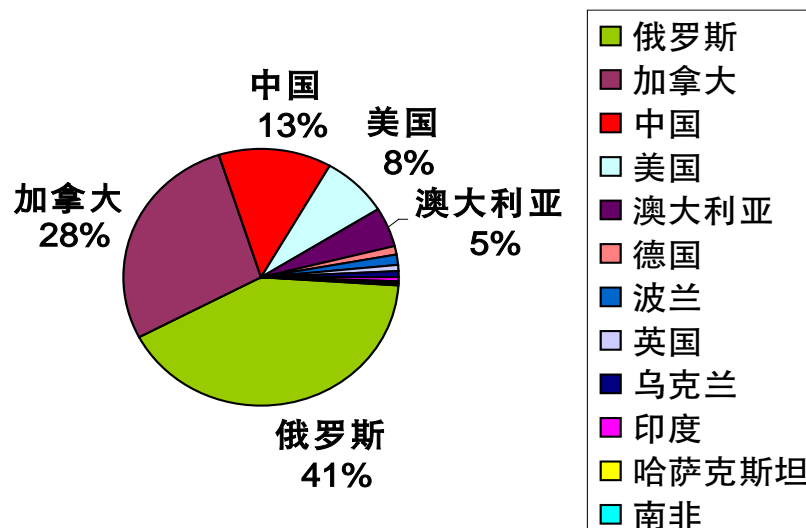
# New Development of CMM/CBM Projects and Policies in China

A decorative graphic on the left side of the slide, consisting of a vertical black line intersecting a horizontal black line. The intersection is surrounded by overlapping colored squares: blue, red, and yellow.

Dr. Guoquan Zhao

China Coal Information Institute

## 1. CBM/CMM resources in China



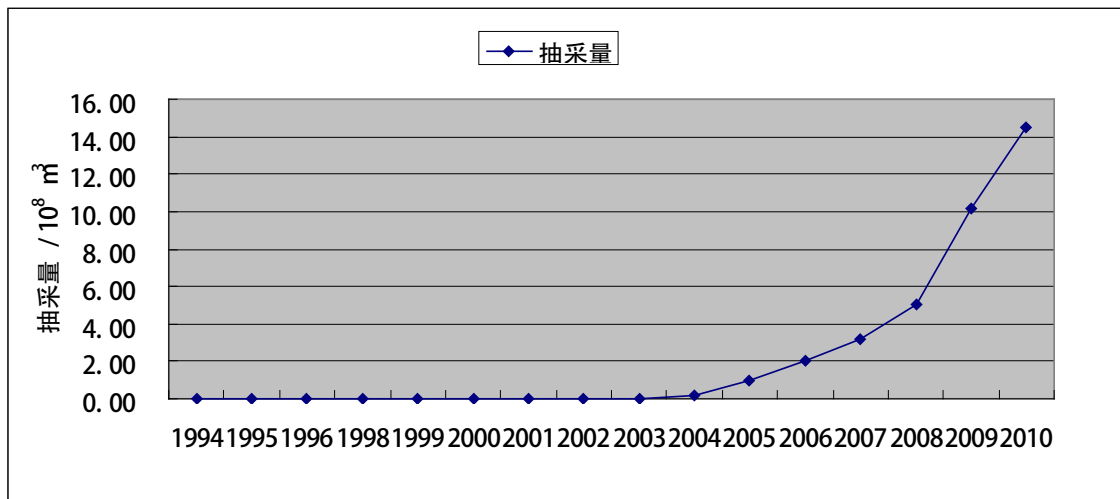
36.8 trillion m<sup>3</sup> of CBM/CMM resources are contained in coal fields in depth of above 2000m, as much as the total amount of conventional natural gas resources in China (35 trillion m<sup>3</sup>).

CBM reserves in china are only less than Russian and Canada, which lies the third position in the world.

## 2. The CBM Recovery with Surface Well

### ➤ The CBM Recovery Volume

- ◆ CBM Recovery with surface well is 1.45 billion m<sup>3</sup> in 2010。



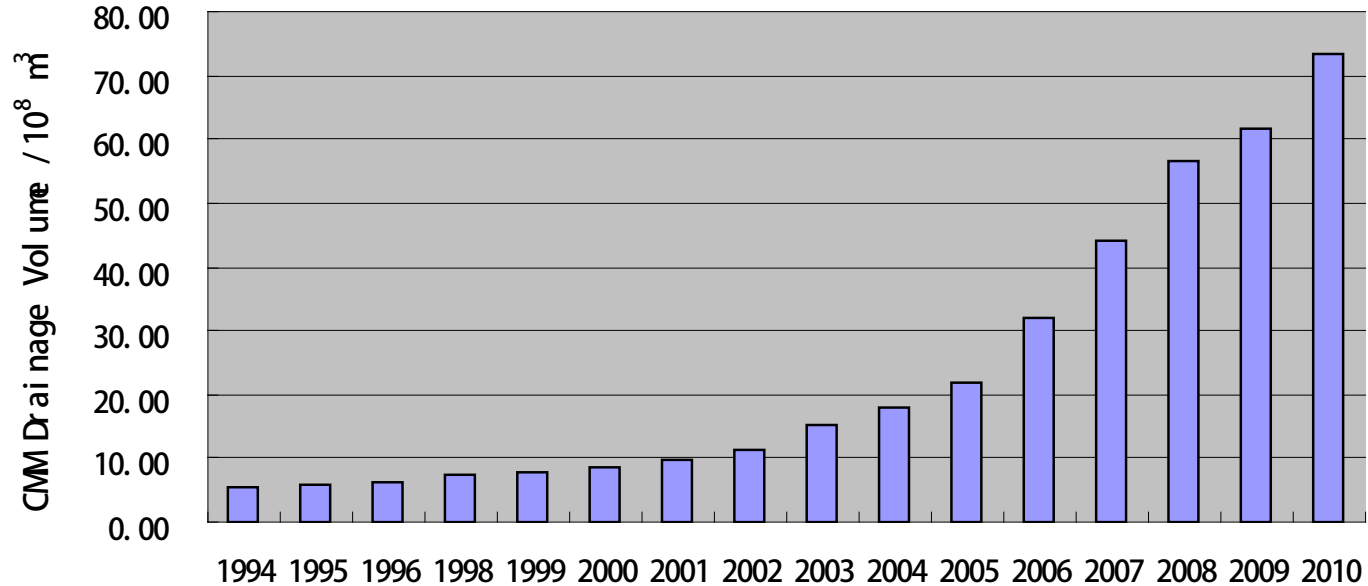
The CBM drainage volume with surface well in China in past years

In 2008, 1033 surface wells were drilled, which 17 times more than in 2004. Coalbed Methane Recovery Capacity reaches 2.0 billion m<sup>3</sup>/year, and the coalbed methane production is about 0.5 billion m<sup>3</sup>. The total amount of drilled surface wells is 3400.

### 3. Underground CMM Drainage

#### ➤ The CMM Drainage Volume

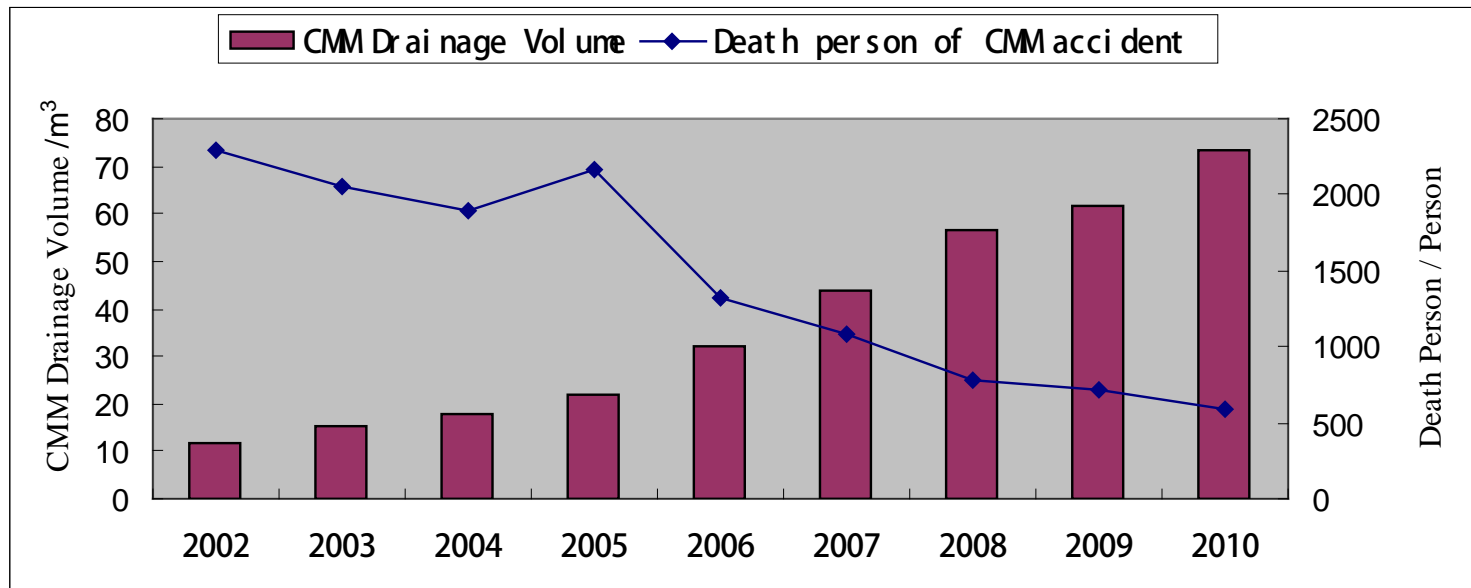
- Underground CMM Drainage is 7.35 billion m<sup>3</sup> in 2010



The coal mine methane drainage volume in China from 1994 to 2010

### 3. Underground CMM Drainage

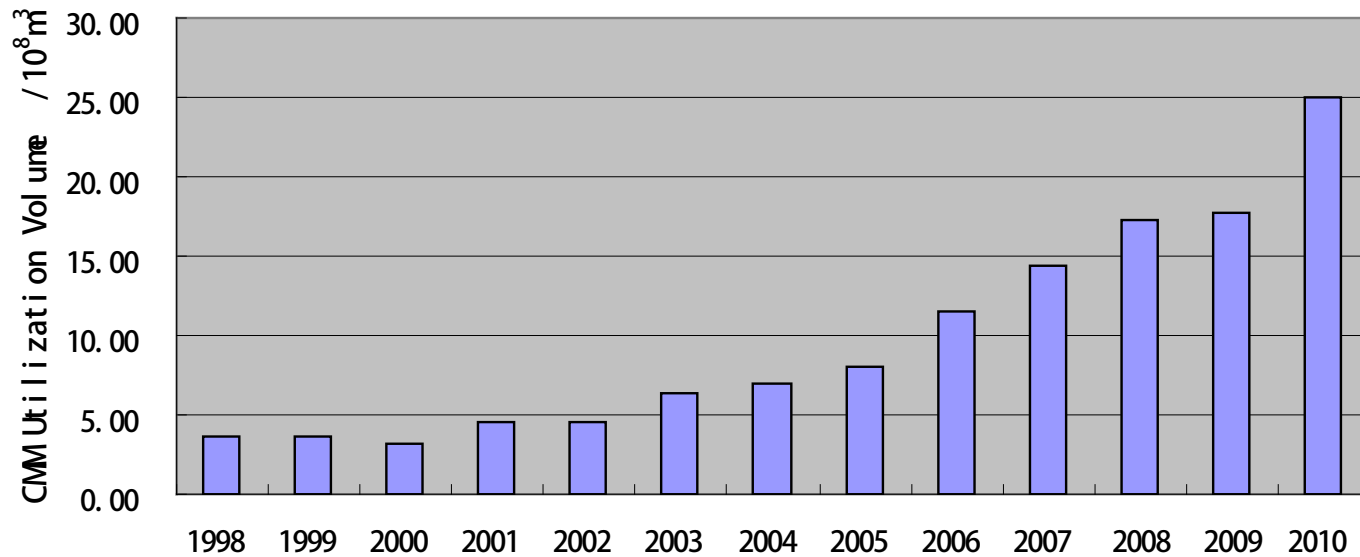
With the increase of drainage volume, the number of coal mine gas explosion accident death persons decreased a lot in recent years



Number of coal mines accident death ( blue line ) vs. CMM drainage volume ( Red block )

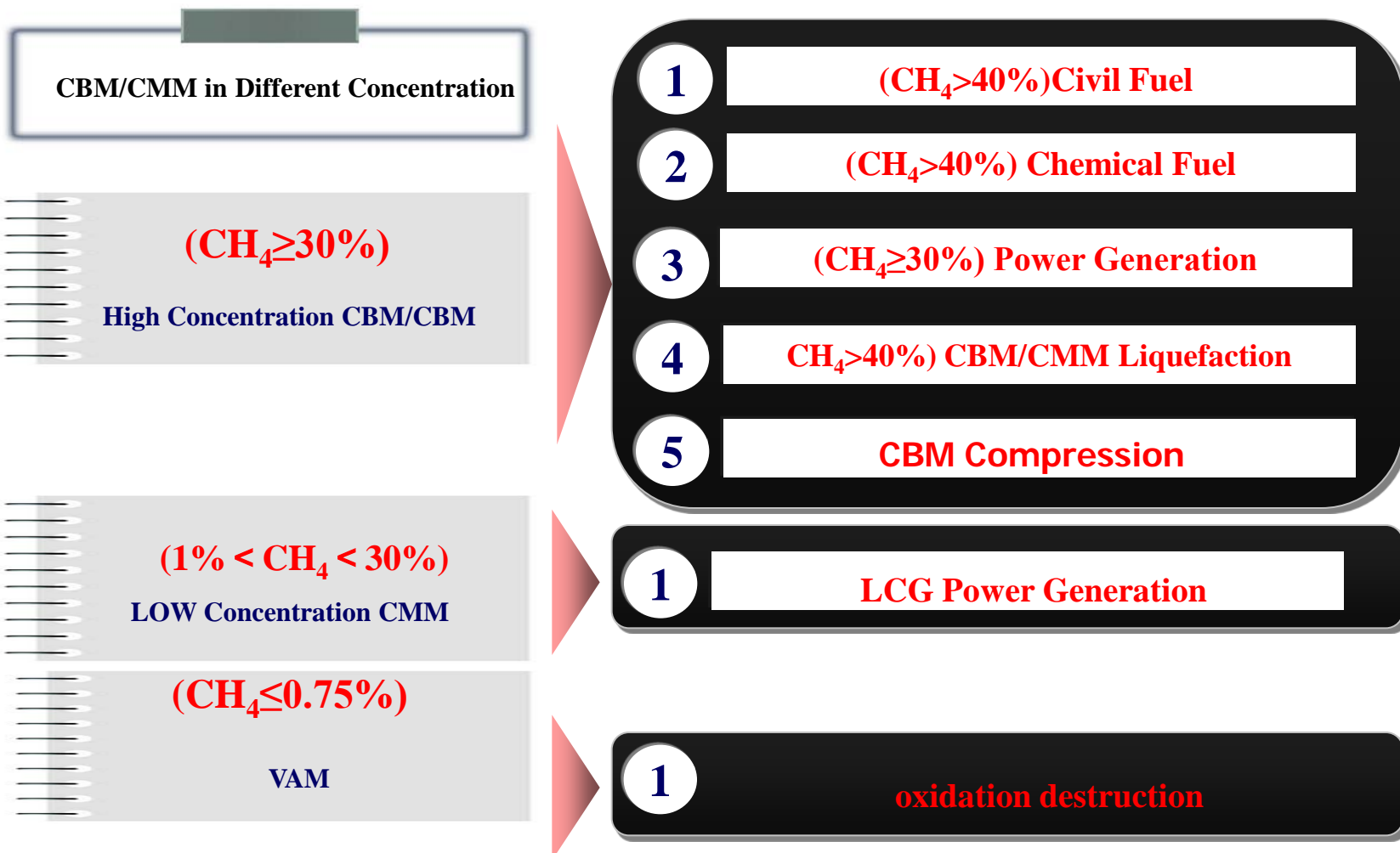
## 4. CBM/CMM utilization in China

- The volume of CMM Utilization: 2.5 billion m<sup>3</sup> in 2010



The CMM Utilization from 1998 to 2010 (10<sup>8</sup> m<sup>3</sup>)

## 4. CBM/CMM utilization in China



## 4. CBM/CMM utilization in China

- Industrial fuel:
  - ▣ Shanghai Cimic Tile Com., Ltd. utilizes CMM from Fengcheng Mining Bureau as industrial fuel to produce ceramic tile.



Production line of ceramic tile utilized CMM as industrial fuel



CBM-fueled Vehicles



## 4. CBM/CMM utilization in China

### ■ Power Generation

- By the end of 2008, 1400 CMM generator units with total installed capacity of 920 Mw in China
- 120 MW CMM power plant in Jincheng is in operation, the largest CMM power plant in the world, which will consume 180 million m<sup>3</sup> CMM and generate the electricity of 720 million kWh.



## 5. Technical Assessment of CBM/CMM Recovery and utilization System

### Background of the system research

**Under the framework of Methane to Markets Partnership, China Coalbed methane clearinghouse worked with U.S. Environmental Protection Agency (EPA) to conduct a research on the Technical Assessment of Coal Mine Recovery and Utilization from May 2009 to May 2011.**

**Researchers collected, classified, and studied the theoretical knowledge of coal mine gas recovery and utilization technologies, and then analyzed the major factors which affected the effect of the coal mine gas recovery and utilization. On the basis of above analysis, the researchers conducted a field investigation and had acquired the information of the current situation of the coal mine recovery and utilization in different regions, analyzed the similarities and differences of various coal mine recovery and utilization technologies, and summarized the internal laws of those technologies.**

## 5. Technical Assessment of CBM/CMM Recovery and utilization System



### Technical Assessment of Coal Mine Gas Recovery and Utilization in China

*Drainage Standard Utilization Priority*



user

password

[Login](#)

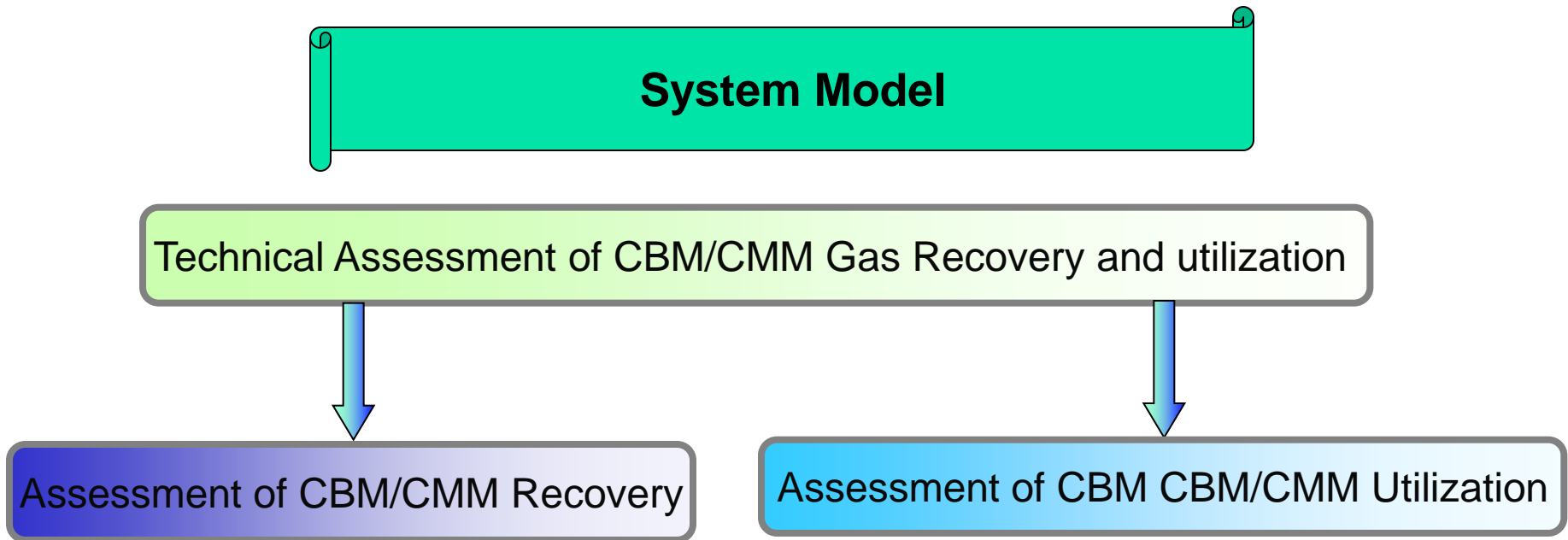
[register](#)



Development Unit: China Coal Information Institute

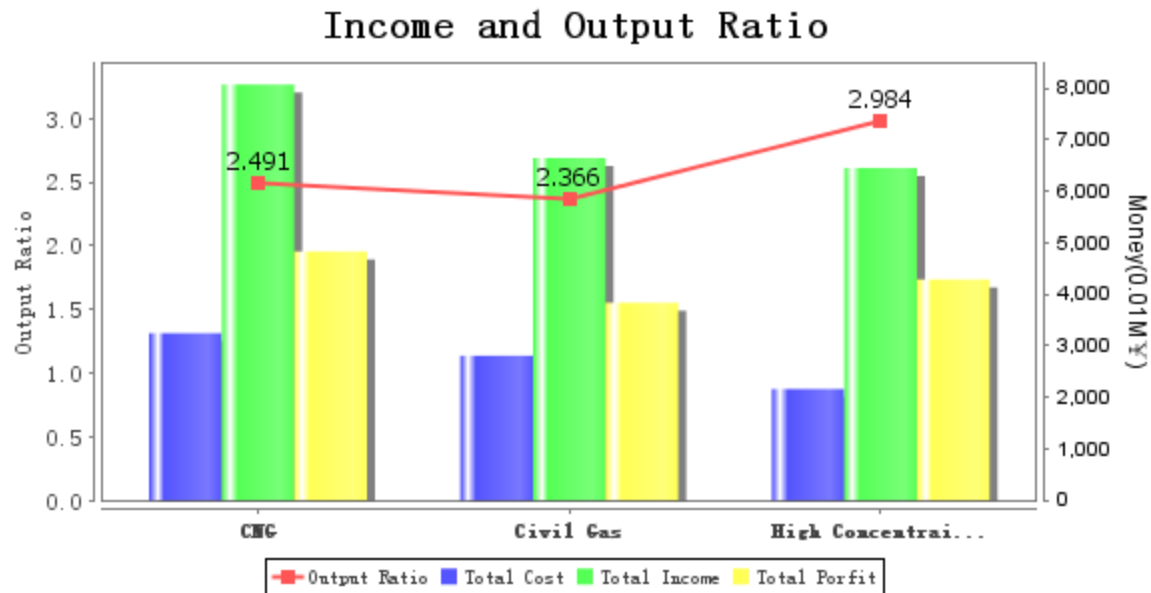
■ The model login interface

## 5. Technical Assessment of CBM/CMM Recovery and utilization System



■ The framework of the system

## 5. Technical Assessment of CBM/CMM Recovery and utilization System



■ Income and output ratio

A decorative graphic consisting of overlapping colored squares (yellow, red, blue) and a black crosshair.

## 6. Preferential Policies

---

### ( 1 ) Fund for Coal Mine Safety

From 2005, the government provide 3 billion of special fund for coal mine safety every year, most of which is used for gas drainage projects. The government allow cola mine extract the safety costs. The safety costs are 50 ¥ per ton of coal in the huainan Coal mine Group of Anhui province, Furong of Sichuan province and Jincheng Anthracite Coal Group of Shanxi province.

## 6. Preferential Policies

### ( 2 ) Financial Subsidy

0.2 Yuan/m<sup>3</sup> from Central Gvt., Subsidies from Local Gvt.

### ( 3 ) Price Adjustment

price to be determined in consultation

Not to enter the city gas grid: consultation; enter grid: refer to calorific heat value compared with the NG.

Encourage to use >500 kW unit

Not to participate in the bidding market, not to undertake the task to peak power grid

Refer to biomass power price 0.25Yuan/kWh

- ( 4 ) Preferential Tax
- Exempt prospecting, mining right fee, don't levy royalty tentatively till 2020
- Levy First and return later for VAT on CBM/CMM sale. Don't levy income-tax if return VAT spent on tech. research and enlarging production
- Accelerate the depreciation of special equipment



## 6. Preferential Policies

- Policies for Low Concentration CMM Utilization

### Amendment of Coal Mine Safety Regulations

New Coal Mine Safety Regulations	The Old Coal Mine Safety Regulations
<p>The CMM can't be used directly as combustion gas, when its concentration is less than 30%.</p> <p>The LCG utilization and transmission system must be in accordance with the provisions of relevant standards, and develop security technology measures when used for internal combustion engine power generation or for other purposes.</p>	<p>The CMM can't be used , when its concentration is less than 30%.</p>

It removes the restriction on the low concentration for power generation using internal combustion engines and utilization after purification.



## 6. Preferential Policies

---

- **On March 2010, State Administration of Work Safety approved 10 industry standards on low concentration CMM transportation and utilization, which will take effect from July 1st 2010 , including:**
  - **Technical specifications of coal mine non-metal pipeline materials for transportation and utilization of low concentration CMM**
  - **Technical specifications of automatic explosion-resistant device for gas pipeline transportation**
  - **Design criterion for safety guarantee system for low concentration CMM pipeline transportation**
  - **Technical specifications of low concentration CMM and water-mist transportation hybrid system**

## 6. Preferential Policies

### ◆ New policies

#### 1. *Compressed Coalbed Methane as Vehicle Fuel*, June 1st 2011

Three national standards, including Guidelines for *CBM/CMM Utilization*, *Compressed Coalbed Methane as Vehicle Fuel* and *CBM/CMM for Household Use* were issued.

#### 2. *Circulation on Exempting Import Tax on the Importation of Goods for CBM Exploration and Development Project during the Twelfth Five-years Plan Period*

August 8<sup>th</sup>, 2011, with the approval of the State Council, the Ministry of Finance, State Administration of Taxation, and General Administration of Customs issued a new policy to exempt the tax on imported goods for CBM exploration and development projects during the Twelfth Five-years Plan Period, so as to support the development of CBM and the control and prevention of coal mine methane.

#### 3. *The Forthcoming Twelfth Five-years Plan for Coalbed Methane Development and Utilization*

National Energy Administration of China have organized a group of experts to draw up the *Twelfth Five-years Plan for Coalbed Methane Development and Utilization* and is collecting suggestions. The Plan might be announced to the public in July. It is planned that up to 2015, the total drainage volume of CBM/CMM reaches 22 billion m<sup>3</sup>, among of which 10 billion m<sup>3</sup> from surface wells, and 12 billion m<sup>3</sup> from CMM drainage. The CBM subsidiary will be raised appropriately.

## 7. New Development

### ◆ New development of CBM industry

1. CBM transportation pipelines from Jincheng to Changzhi was successfully built and went through test running

On May 12<sup>th</sup> 2011, CBM transportation pipelines from Jincheng to Changzhi was successfully built and went through test running. The length of the pipelines is 92.236KM. The designed annual gas delivery capacity reaches 385 million m<sup>3</sup>, is expected to be 1 billion m<sup>3</sup> in the future.

2. Exclusive right for foreign cooperation

Four ministries and commissions, including NDRC and Ministry of Commerce, jointly issued an notice on Dec. 3<sup>rd</sup> 2010 that CNPC, SINOPEC and Henan Provincial Coal Seam Development and Utilization Co., Ltd. were authorized to have the exclusive right for CBM foreign cooperation. There are all together 4 companies which hold this right, including CUCBM.

3. China National Offshore Oil Corp. becomes the shareholder of CUCBM

China National Offshore Oil Corp. begin to get involved in CBM industry by acquiring 50% stake of CUCBM with a price of 1.203 billion RMB.

4. The total drainage volume of CBM/CMM in Jincheng Anthracite Mining Group reached 0.985 billion m<sup>3</sup> in the first half year of 2011, and the utilization volume reached 0.579 billion m<sup>3</sup>. Its CBM drainage volume accounts for 60% of China's drainage, and the utilization volume accounting for 30% of the national total.

## 8. CDM Projects

- Until Feb.26, 2009, NDRC approved 65 projects for recovery and utilization of CMM.
- Until Feb.28, 2009, 15 projects of recovery and utilization of CMM have been registered in EB.
  
- List of CDM Project Carried out by CCII
- Huannan Pansan Coal Mine Methane Destroy and Utilization Project
- Yangquan Coal Mining (Group) Liability Company CBM Utilization in Alumina Sintering Furnace Project
- Shanxi Jincheng 120MW CBM Power Generation Project
- Songzao Coal & Power Co. Ltd. CBM Comprehensive Utilization Power Generation Project
- CBM Utilization project of Tiefa mine area

- **Welcome you visit CCII**
- Dec.1 2011, 11th international CBM/CMM meeting, Beijing





*Thank You!*

谢谢!