

Current Situations of CBM/CMM Recovery and Utilization & methane emission reduction in China

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- **CCII engaged in GMI**
- **National plan for CBM/CMM recovery and Utilization**
- **Policies**
- **Demonstration**
- **Recent development**



- China Coalbed Methane Clearinghouse established with support of US EPA in 1994 has been engaged in promotion of methane emission reduction in coal sector.
- Improved awareness of the multiple benefits of methane recovery and emission reductions: using methane as energy and mitigating climate change.
- Joining the Methane to Markets Partnership in 2004. changed into the new program - Global Methane Initiative (GMI) in 2010.



- ◆ 2007 M2M Expo. in Beijing

- ◆ 830 participants from 34 countries attended the Expo on Oct. 30 to Nov. 1, 2007, Beijing

- ◆ Co-hosted by NDRC and USEAP

- ◆ organized by CCII





CCII hosted the reception at the M2M Steering Committee Meeting in DC in 2009

2010 M2M Expo. In India



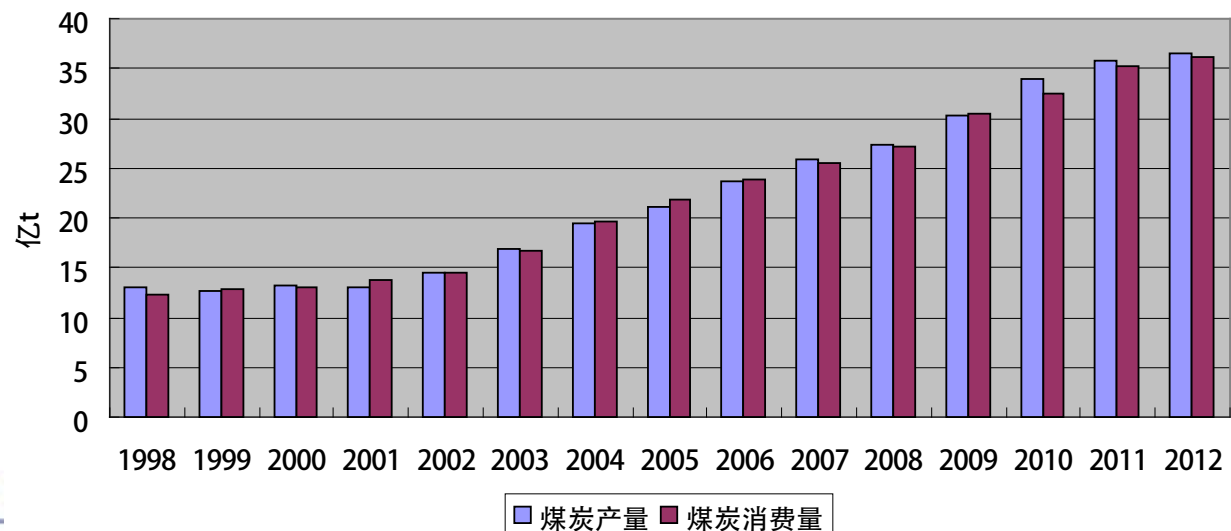


2013 Methane Expo.
Welcome to visit the
Booth of China



Coal Production and Mine Safety in China

- Coal production in China
 - Biggest coal-producing and coal-consuming country in the world.
- Production: 3.65 billion tons in 2012
- Around 90% of coal from underground mines.



2000-2012年中国煤炭生产与消费量

Coal Production and Consumption from 2000 to 2012 In China 7



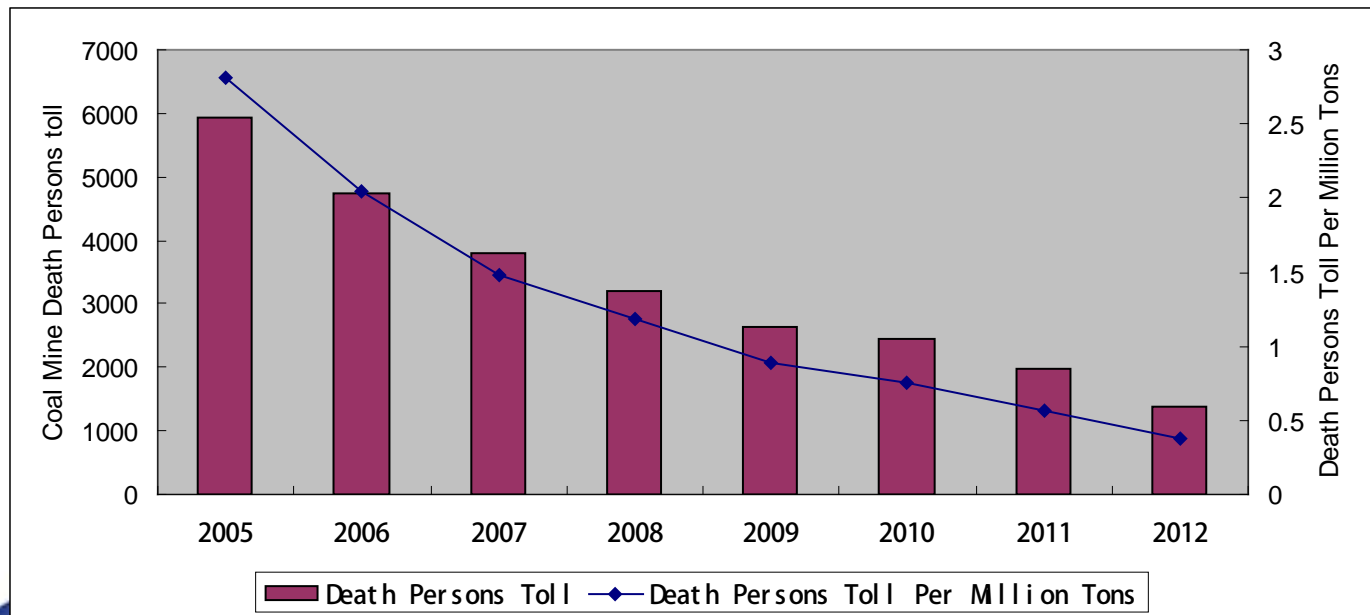
Coal Production and Mine Safety in China

- China coal sector are confronted with great challenges.
- High gas content in coal seams. 42% of underground coal mines with gas content over 10 m³/t or risk of coal/gas outburst. More gas explosion accidents occurred at coal mines.
- Many small coal mines are lack of modern mining technology and management
- In 2005, the State Council launched the two national programs
 - (1) Controlling coal mine gas emissions and preventing gas accidents ,
 - (2) Closing down small coal mines.



Coal Production and Mine Safety in China

- Coal mine safety improved through implementation of the national programs
- Death toll dropped from 5938 in 2005 to 1384 in 2012.
- The fatality rate dropped from 2.811 deaths per million tons of coal in 2005 to 0.374 in 2012.



2005-2012中国煤矿死亡人数和百万吨死亡人数
Death toll and deaths per million tons in China from 2005 to 2012



National Plan of CBM/CMM Recovery and Utilization up to 2015

- **Recovery and utilization of CBM/CMM in 12th Five-year Plan (2011-2015)**
 - By the end of 2015, drainage volume of CMM will be 14 Billion m³, and utilization rate will be over 60%. CBM production with surface well will reach 16 Billion m³, and all of CBM recovered will be utilized;
 - Installed capacity of CMM power plants will be 2850 MW, and provide 3.2 Million households with CBM/CMM fuels



National Policies

- Governmental funds: 3 billion RMB for CMM recovery projects and other projects of coal mine safety each year, would be increased to 5 billion RMB each year
- Subsidy standards: 0.2 RMB/m³, would be increased up to 0.6RMB/m³ (Subsidy standards for shale gas is 0.4 from Central Government for the period of 2012-2015)
- Tax policies
- Drafting out preferential policies for VAM projects.



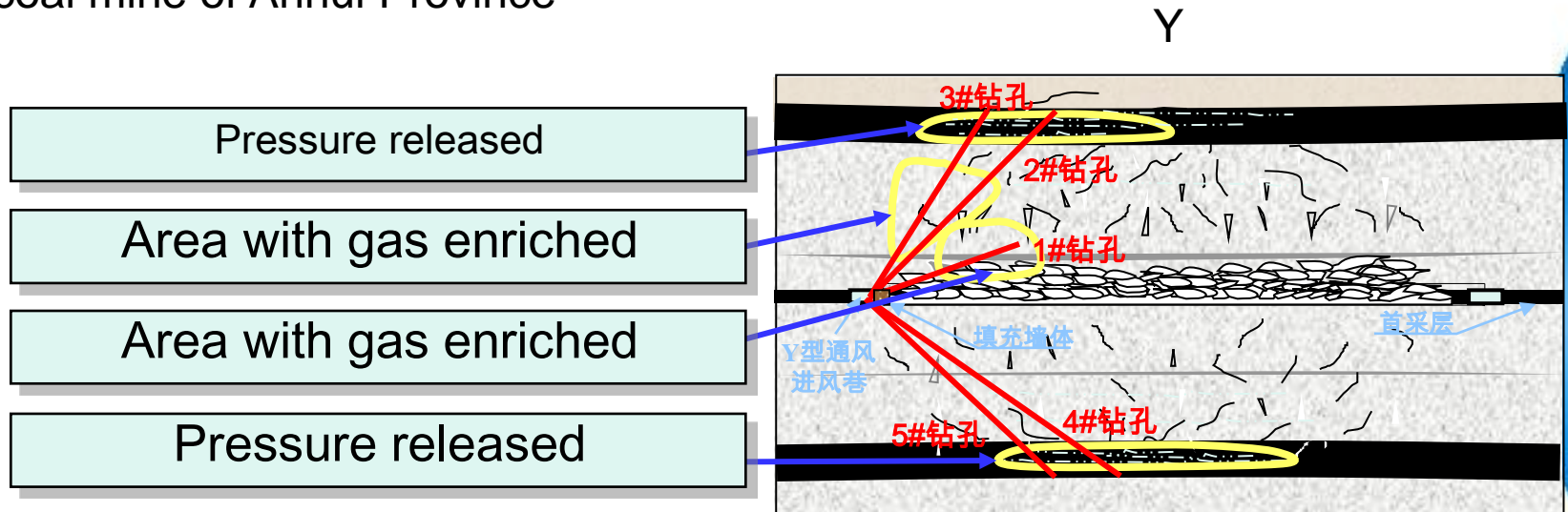
New Policies

- In order to draw up and issue preferential policies for the development of CMM/CBM, the NDRC, MOF, NEA and SACMS set up a working team to make investigation. They visited the coal producing provinces including Shanxi, Liaoning, Heilongjiang, Hunan, Jiangxi, Sichuan, Guizhou, Yunnan, Henan , and collected stakeholders' comments and made policies suggestions for recovery and utilization of CMM/CBM.

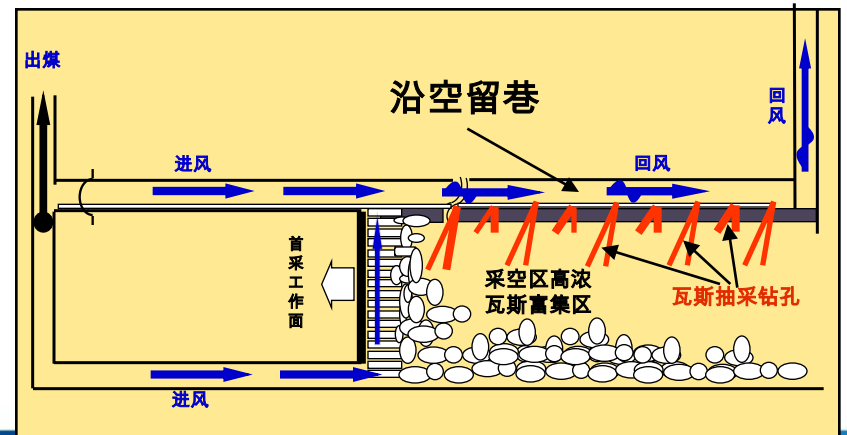


Demonstration projects with improved technology

- Improved technology for increasing CMM recovery at Huainan coal mine of Anhui Province



- Y-type Ventilation system



Demonstration projects with improved technology

■ Power generation

- CMM power plant with capacity of 120 MW at Jincheng Coal Mine of Shanxi Province

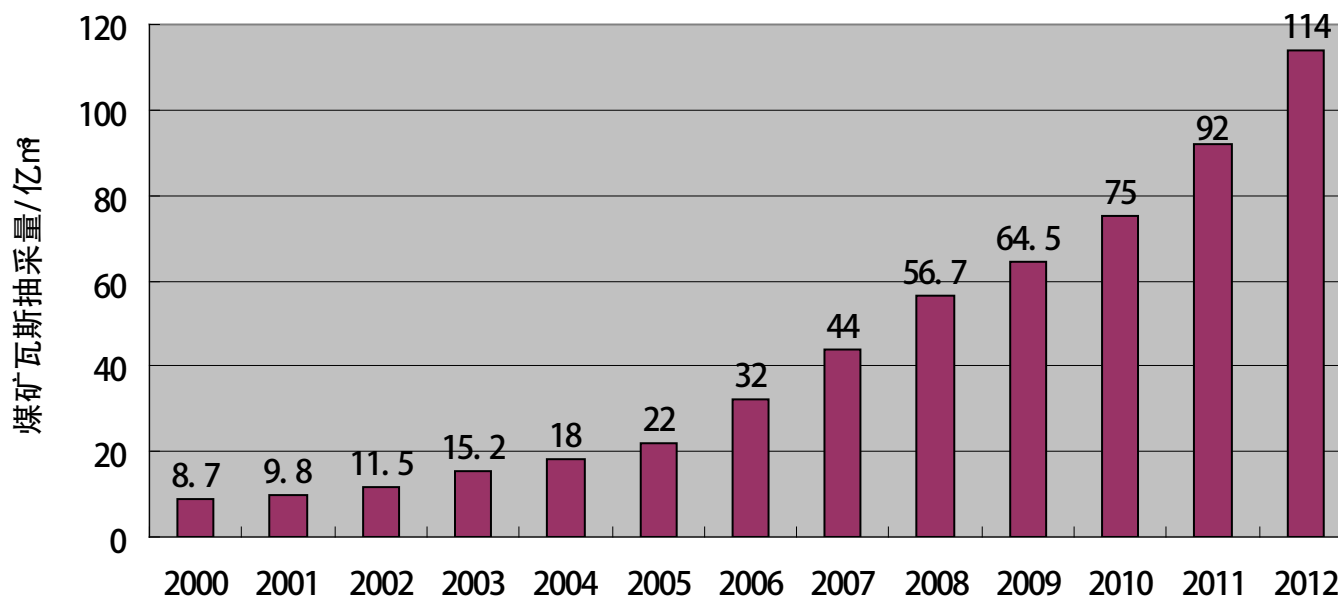


- ❑ Compressed CBM/CMM
- ❑ CBM/CMM fueled Vehicles



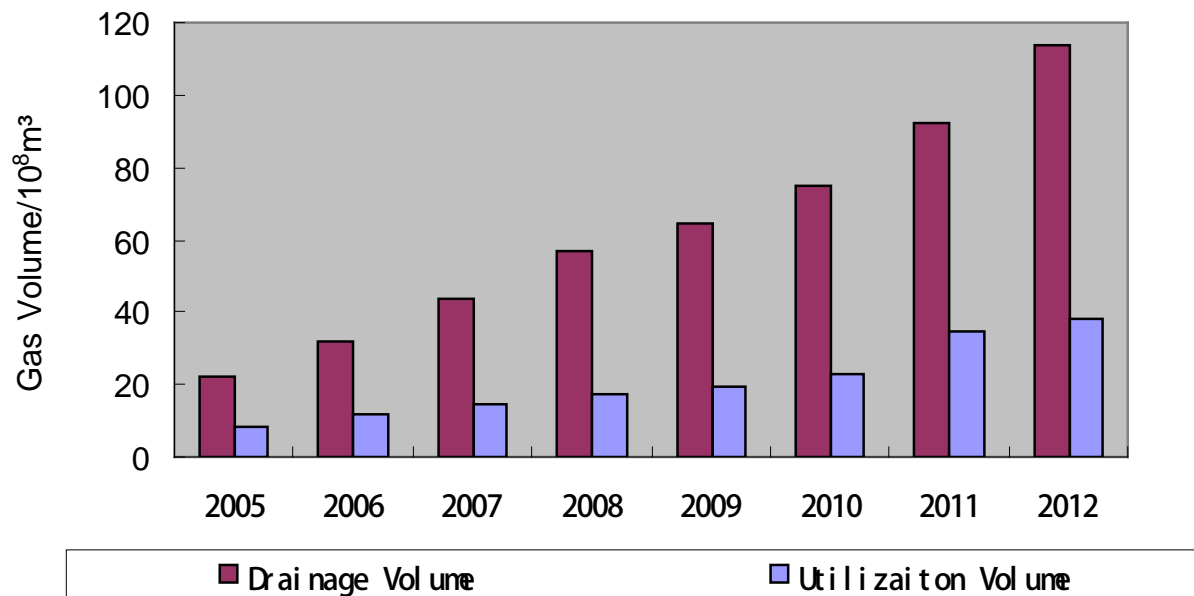
Recent Development

- CMM recovery reached 11.4 billion m³ in 2012, increased by 25.3% compared with that in 2011.



Volume of CMM drained underground from 2000-2012 in China

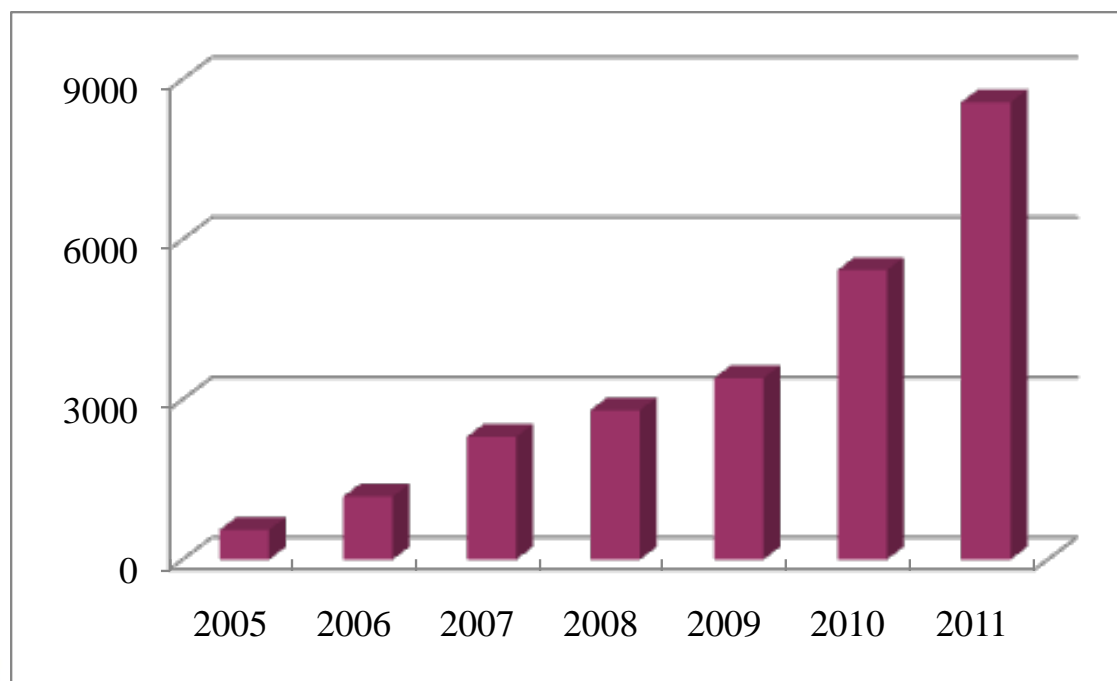
- The volume of CMM utilization are 3.5 billion m³ in 2012.
- About 7.9 billion m³ of gas are available for developing more gas utilization projects



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The CMM recovery and utilization from 2005 to 2012 (10⁸ m³)

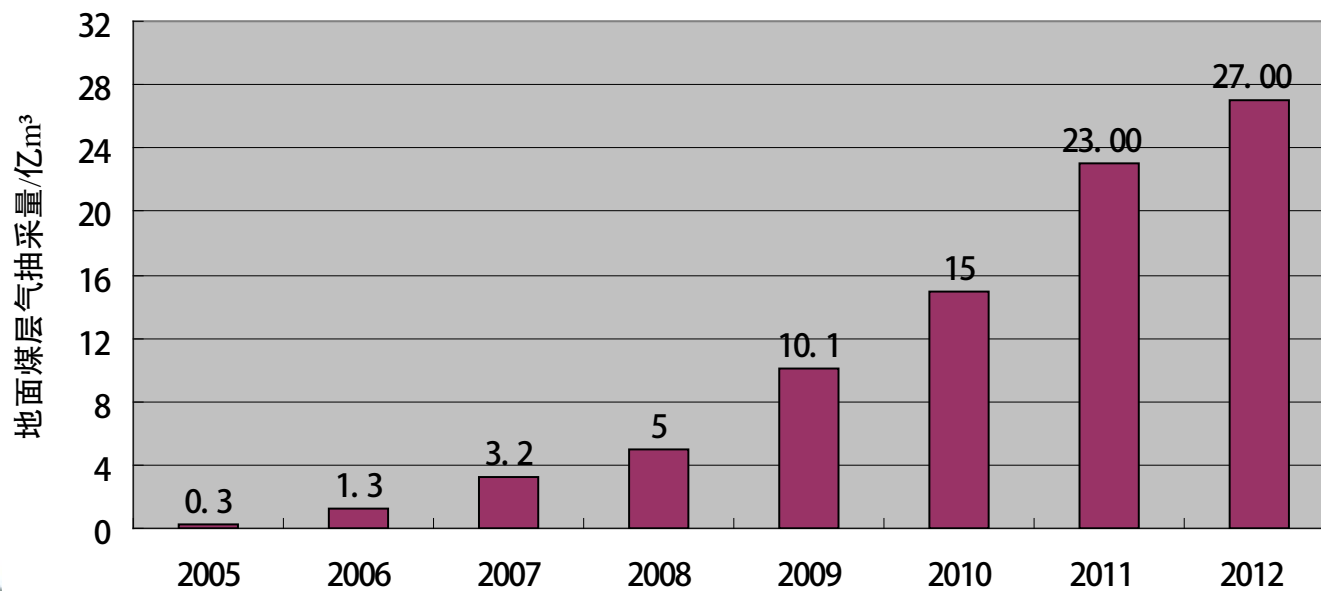
CBM recovery with surface wells

- By the end of 2011, 8571 CBM surface wells were drilled.



Accumulative numbers of CBM surface well from 2005-2011 in China

- Produced 2.7 billion m³ of CBM in 2012.



CBM production from surface wells increased from 2005-2012 in China



Thank You

