

China Update

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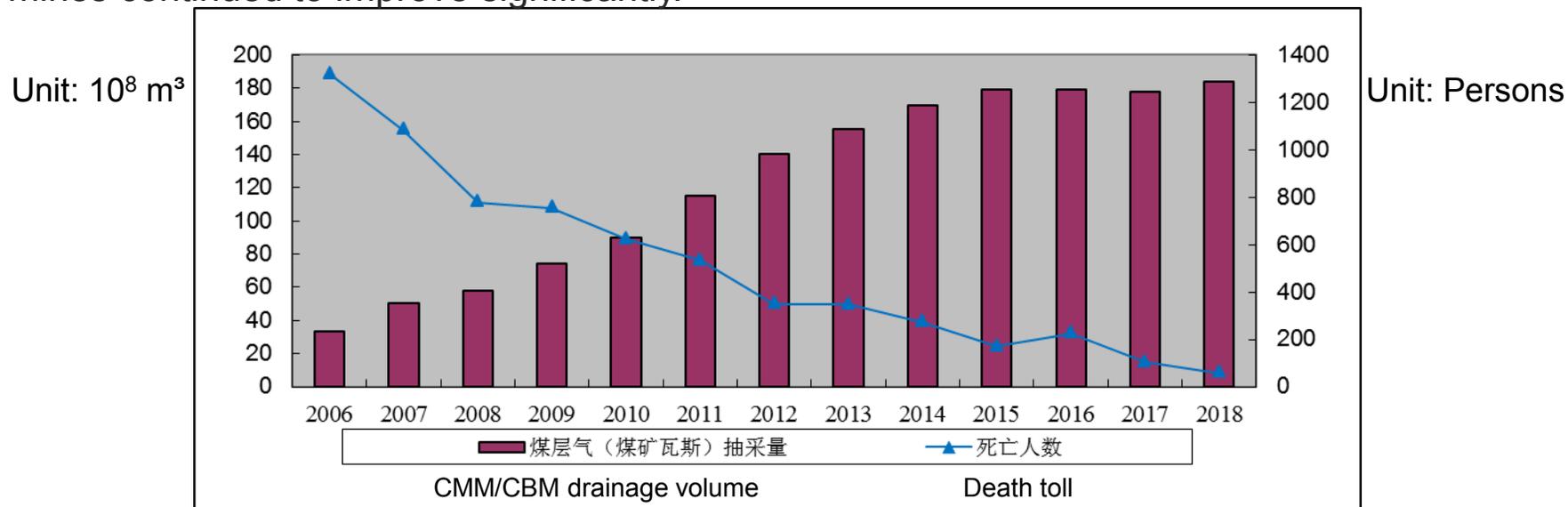
GMI Coal Subcommittee Meeting 7 November 2019



Death toll from gas accidents in coal mines



- With the rapid increase of the CMM/CBM drainage and utilization, the death toll caused by gas accidents has dropped significantly. In 2018, the death rate per million tons of coal nationwide was 0.093, which fell below 0.1 for the first time.
- From 2006 to 2018, CMM/CBM drainage volume increased by 4.5 times while the death toll caused by gas accidents decreased by 95.6% (58 persons in 2018). The national situation of gas accident prevention and control in coal mines continued to improve significantly.

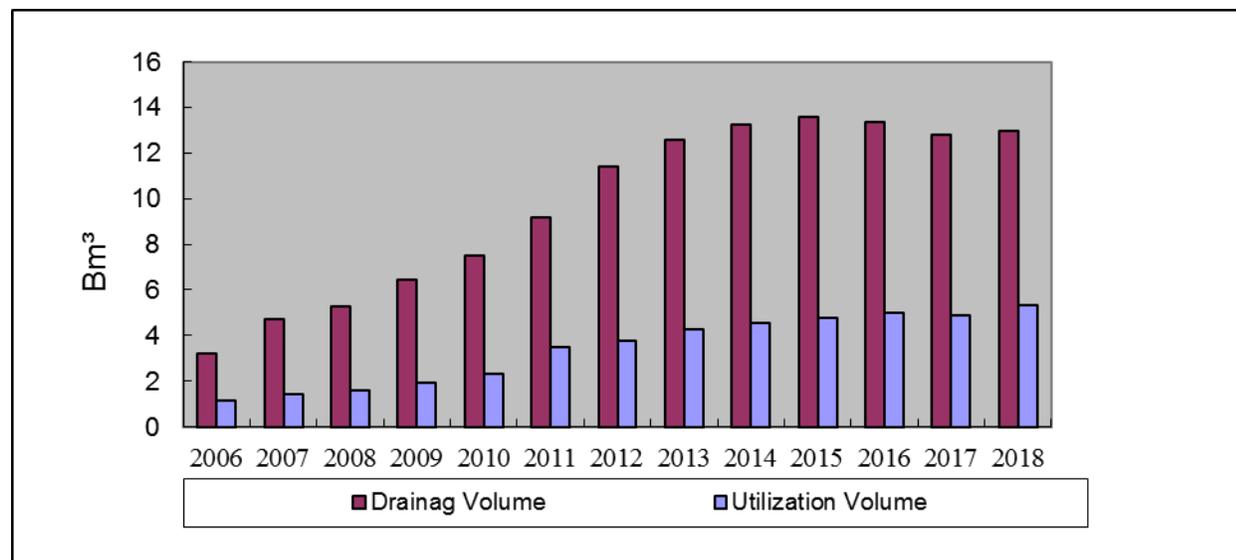


The death toll caused by gas accidents in coal mine decreased year by year with the CMM/CBM drainage volume from 2006-2018.

CBM/CMM drainage and utilization



- In 2018, the national CMM/CBM drainage volume was 18.4 billion m³, and the utilization volume was 10.2 billion m³. There into, national CMM drainage volume was 12.98 billion m³, and the utilization volume was 5.31 billion m³.
- Shanxi Province is a large province of gas drainage, accounting for 49.7% of the national total, followed by Guizhou Province. There are 12 provinces with more than 100 million m³ of gas drainage.



CMM drainage and utilization volume in 2006-2018

Progress of low-concentration CMM projects

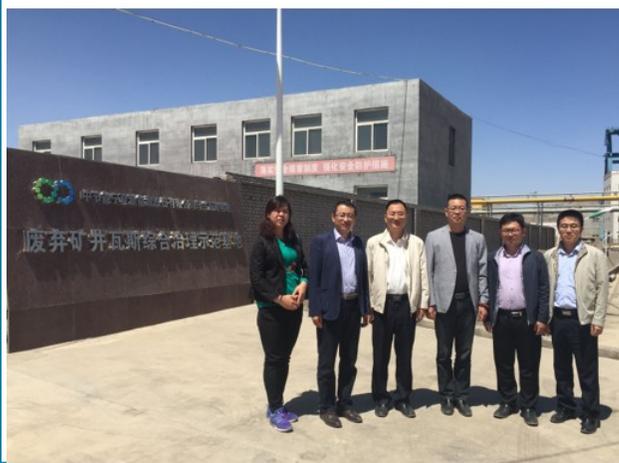
- CAT and GE's LCMM generators are being demonstrated in China.
 - CAT G3516C
 - CH₄ concentration > 10%.
 - Projects constructed in Gaoping, Zuoquan and Duanhe of Shanxi Province.
 - The Laoshatian LCMM power plant in Guizhou Province is under construction, installed capacity of 4.4Mw(3×1480KW)
 - GE Jenbacher J420 gas generators
 - CH₄ concentration 9%.
 - In Mar. 2019, Hudi distributed LCMM power generation project of JAMG has been put into operation, with the installed capacity of 10.4MW(8×Jenbacher J420).



Progress of AMM development and utilization



- From 2014 to 2016, three study projects on policy recommendations, feasibility study and commercialization promotions of AMM development were funded by the British Prosperity Fund three consecutive years.
- In 2017, Mr. Yuan Liang, academician of the Chinese Academy of Engineering led a major consulting research project *Strategic Research on Abandoned Mine Resource Development and Utilization in China*.
- Officers from NEA paid a visit to UK on AMM, experts to Colorado of US in 2018.
- Current situation of AMM development and utilization:
 - Wulan Coal Mine, CECEP Ningxia New Energy Resources Joint Stock Co., Ltd.
 - Qingshui No.2 Mine, Liaoning Hongyang Coal Seam Gas Clean Energy Development Co., Ltd.



Regulatory Updates



- CCII undertook the *Policy Research on Development and Utilization of AMM Resources in Closed Mines*, in 2018, entrusted by the National Energy Administration. CCII has drawn out the draft Guidance to NEA in this June.
- NEA is beginning to draft the 14th Five-Year Plan on CBM/CMM development in China this year.
- Central financial subsidy----Supplementary Notice of the Interim Administration Measures for Special Funds of Renewable Energy Development issued in 2019
 - The Special Funds of Renewable Energy Development support the development of unconventional natural gas, including CBM/CMM, shale gas and tight gas.
 - From 2019, subsidy is no longer provided with quotas. With the principle of “growth more, subsidy more” , if the CMM/CBM drainage and utilization volume exceeds that of the last year, cascade subsidy should be given according to the excess level. If the volume does not reach that of the previous year, the subsidy should be deducted accordingly.
 - According to the principle of “growth in winter, subsidy in winter”, the incremental part during the heating season(Jan to Feb, Nov to Dec) will be subsidized with excess coefficient (the partition coefficient is 1.5).

Volume that exceed last years'	Volume that below last years'	subsidized /deducted partition coefficient
0-5%(inclusive)	0-5%(inclusive)	1.25
5-10%(inclusive)	5-10%(inclusive)	1.5
10-20%(inclusive)	10-20%(inclusive)	1.75
More than 20%	More than 20%	2

Welcome you to attend
19th International Symposium on CBM/CMM in China
Landmark Hotel, Beijing China
December 11, 2019

Supporters:

Environment Project Agency, USA

National Coal Mine Safety Administration, P.R.China



Thank you