The Global Methane Initiative

United States of America Country Strategy & Update

> Coal Subcommittee Meeting October 13, 2011



Outline

- US Domestic Strategy
- SUS Plan to Support International Activities through GMI
- Overarching activities
- Country-specific activities:
 - China
 - India
 - Mongolia
 - Poland
 - Russia
 - Ukraine
 - Turkey, Kazakhstan, Vietnam, Colombia, Mexico
- ➤US Plans to support next GMI Expo



US Domestic Strategy for CMM

Focus:

 Overcoming regulatory & institutional barriers to project development through technical exchange

➢Key agencies:

- US EPA Coalbed Methane Outreach Program (nodal agency)
- US Trade & Development Agency
 - CMM/CBM Definitional Missions to Colombia, Mexico, Vietnam, Turkey
- US Agency for International Development
- US Department of Energy



US Domestic Strategy: Recent activities

2011 US CMM Conference October 18-20 in Park City, UT

Reporting of greenhouse gas emissions from U.S. underground coal mines:

- Data collection by mines in 2011
- Mines begin reporting to USEPA in September 2012



US International Strategy: Support for GMI Partnership

Recent GMI activities:

- Developed Draft GMI Flaring paper
- Updated CMM Technology Database
- Support for CMM project development through USEPA GMI grant solicitation
 - Awarded grants in 2011 (China, Mongolia, Russia, Turkey)



China: US Strategy and Activities

Comprehensive feasibility studies

Songzao Coal Mines, Chongqing

- Based on results of this study CQEIG is moving forward with joint venture for CMM to LNG plant
- Liuzhuang Mine, Huainan, Anhui Province
- Hebi mines, Henan Province
- Linhua Mine, Guiyang, Guizhou Province
- Tai Xi Mines, Alashan, Inner Mongolia
- > Technology demonstration
- CSIRO mitigating and utilizing dilute methane with a monolithic catalytic combustor at Tiefa



China: US Strategy and Activities

Data collection and analyses

- Abandoned mines in Shanxi and additional provinces
- Grant to University of Colorado
- Coal Mine Gas Recovery and Utilization throughout China
- Grant to China Coal Information Institute
- Capacity building: national and regional efforts
- China Coal Information Institute (CCII)
 - Supports training, study tours, workshops, data collection, identification of opportunities, pre-feasibility studies
- Shanxi Province
 - Grant to China University of Petroleum, Beijing
 - Guizhou Province



India: US Strategy and Activities

Goals / objectives

- Provide assistance for:
 - CMM policy, legal and regulatory development
 - VAM and CMM resource assessment
 - Capacity building and technology transfer

Recent activities

- India Coal Mine/Coalbed (CMM/CBM) Methane Clearinghouse established at Central Mine Planning and Design Institute (CMPDI)
- US EPA grants: data collection from active and abandoned mines (SIU and CIMFR)



Mongolia and Turkey: US Strategy and Activities

Mongolia: Awarded GMI grant to the Mongolia Nature and Environment Consortium (MNEC) for "CMM Resource Assessment and Emissions Inventory Development"

 Turkey: Awarded grant to Virginia PolyTechnic University for "Optimizing Degasification Systems to Reduce Methane Emissions from Turkish Coal Mines". USEPA presented at the World Mining Congress September 2011 in Istanbul.

Poland: US Strategy and Activities

- U.S. EPA awarded two grants (2008).
 - Assessment of VAM resources at 10 gassy mines, with the Central Mining Institute (CMI) in Katowice.
- Feasibility study abandoned Zory mine, (IETU/LNG Silesia): CHP 2 MW plant in operation since 2010
- U.S. EPA awarded one grant (2009) to CMI for a study with Dart Energy (ongoing)

Russia: US Strategy and Activities

Goals / objectives

- Focus on addressing legislative and regulatory barriers to project development in Russia
- Recent activities:
- CMM Best Practices Workshop in Kemerova with UNECE (June 2011)
- Grant awarded to study VAM at Russian coal mines.



Ukraine: US Strategy and Activities

ARENA-ECO collaborating with policymakers to encourage and facilitate CMM project development

- Work coordinated by Battelle PNNL (sponsored by U.S. EPA)
- CMM Seminar and Best Practices Workshop with UNECE (September 2011)



Vietnam, Kazakhstan, Colombia, Mexico: US Strategy and Activities

Kazakhstan: USEPA supported the UNECE Best Practices Workshop in May 2011.

- **Colombia**: USEPA presented at CMM Workshop in Bogota February 2011. Possible scoping mission in 2012.
- Vietnam: Scoping mission planned for October 2011.
- Mexico: EPA funded a CMM to LNG project in the Sabinas coal basin



US EPA Coalbed Methane Outreach Program www.epa.gov/cmop

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