



Methane to Markets

United States of America Country Strategy & Update

Coal Subcommittee Meeting

29 January, 2009

Monterrey, Mexico

Outline

- US Domestic Strategy
- US International Activities through the Methane to Markets Partnership
 - Overarching activities
 - Country-specific activities:
 - China
 - India
 - Mexico
 - Mongolia
 - Nigeria
 - Poland
 - Russia
 - Ukraine

US Domestic Strategy for CMM

- **Focus:**
 - Overcoming regulatory, institutional barriers to project development through technical exchange
- **Key agencies:**
 - US Environmental Protection Agency (US EPA)
Coalbed Methane Outreach Program (*nodal agency*)
 - US Agency for International Development
 - US Department of Energy
 - US Trade & Development Agency

US Domestic strategy: Recent activities

- Very successful 2008 US CMM Conference in Pittsburgh, PA
- Support for VAM mitigation technology demonstration
 - US EPA and US DOE funding
 - Hosted by CONSOL Energy at an abandoned mine
- Technology demonstration: enhanced CBM production and CO₂ sequestration in unmineable coal seams
 - Funded by US DOE
 - Hosted at a site in West Virginia (CONSOL Energy)
- Developing rule for reporting greenhouse gas emissions
- Financial Model complete (beta version)
http://www.epa.gov/coalbed/resources/cashflow_model.html

US International Strategy: Support for M2M Partnership

- Recent M2M activities
 - Support for CMM project development through EPA M2M grant solicitation
 - Awarded six grants in 2007 (China, India, Mexico, Nigeria)
 - Awarded six grants in 2008 (China, India, Mongolia, Poland)
 - **New solicitation open for applications until March 5, 2009**
 - <http://www.epa.gov/methanetomarkets/grants.htm>
- Participate in Asia Pacific Partnership on Clean Development and Climate
 - Coal Mining Task Force

US Support for M2M Partnership: Recent Activities

- Global CMM Projects Database
 - Live on <http://www2.ergweb.com/cmm/index.aspx>
 - 220 projects
 - Database is searchable and can be exported to Excel
 - New function allows any user to update or add project information
 - **Please review project information for your country!**

- CMM Global Overview
 - 33 country profiles have been developed, updated in 2008
 - <http://www.methanetomarkets.org/resources/coalmines/overview.htm>

US Strategy and Activities in China

- **Goals / objectives**
 - Assist with project development and on-the-ground activities
 - Continue supporting the China Coalbed Methane Clearinghouse to build capacity and conduct outreach
 - Continue working with provinces to support local projects

US Strategy and Activities in China (2)

■ **Recent activities**

- Training workshop: “Coalbed Methane and Coal Mine Methane Power Generation”
 - Dalian City, 28 – 31 May 2008
 - Funded by USTDA, supported by EPA, organized by USEA for NDRC
 - www.usea.org/natural-gas-training/index.htm

- GZCMM held local conference in Guizhou Province
 - Guiyang, 16 – 17 July 2008
 - <http://gzcmm.org/en/html/161/>

US Strategy and Activities in China (3)

- **Ongoing / upcoming activities**
 - US EPA is funding **three full-scale feasibility studies**
 - Hebi mines, Henan province
 - Songzao mines, Chongqing
 - Liuzhuang Mine, Huainan Mining Group, Anhui province
 - US EPA has awarded **five grants** for CMM work in China
 - CSIRO (demo of VAM destruction at Tiefu coal mine)
 - CCII (demo of medium quality gas destruction technology)
 - GZCMM (outreach to small, medium mines in Guizhou)
 - Virginia Tech (database of coal seams in Shanxi)
 - Jackson Hole Center for Global Affairs (mine-mouth CMM power plants in Jincheng)
 - US EPA is working with **IEA** to conduct outreach, identify project opportunities, and summarize policy barriers in China, esp. Guizhou and Sichuan Provinces

US Strategy and Activities in India

■ **Goals / objectives**

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

US Strategy and Activities in India (2)

■ **Recent activities**

- India Coal Mine/Coalbed Methane Clearinghouse established at Central Mine Planning and Design Institute
 - CMM Clearinghouse kick-off event: Ranchi, November 2008
 - Site visit to UNDP/GEF CMM project at Moonidih mine
 - <http://www.indiacbm-cmm.govtools.us/>
- US EPA awarded two grants for CMM work in India
 - Southern Illinois University: quantify VAM emissions from two underground coal mines (Moonidih and Sudamdih)
 - Central Institute of Mining and Fuel Research: Feasibility Study for Recovery and Utilization of Coal Mine Methane in Jharia, Bokaro and Raniganj Coalfields in India

US Strategy and Activities in Mexico

- **Goals / objectives**
 - Assess CMM resources
 - Facilitate legal and regulatory development
- **Recent activities**
 - EPA funding a CMM to LNG demonstration project in the Sabinas coal basin with CleanMetFuel
- **Upcoming activities**
 - EPA site visit and scoping mission in 2009

US Strategy and Activities in Mongolia

- **Goals / objectives**
 - Help to build in-country capacity for CMM analysis and implementation
- **Recent activities**
 - US EPA is funding the Mongolian Nature and Environmental Consortium to conduct a pre-feasibility study of CMM recovery at the Nalaikh mine. Potential GEF follow-on project.
 - US EPA developed country profile for global overview.
- **Upcoming activities**
 - Support for CMM project development in Mongolia

US Strategy and Activities in Nigeria

■ **Goals / objectives**

- Encourage greater country participation in M2M, especially coal owners and the Ministry of Solid Minerals
- Build capacity through support of government and private sector participation in M2M Coal Subcommittee meetings

■ **On-going activities**

- EPA is funding a grant with TEMEC/CPE to conduct prefeasibility studies at the Onyeama and Owukpa mines (Enugu coal field)

US Strategy and Activities in Poland

- **Goals / objectives**
 - Poland has considerable expertise with CMM projects
 - As needed, assist in identifying and overcoming barriers to CMM that exist
- **Recent activities**
 - EPA supported a CMM Workshop in Szczyrk Feb. 2008
 - EPA funding two M2M grants:
 - Central Mining Institute (VAM data collection)
 - Institute of Ecology of Industrial Areas (LNG end use)
 - VAM capacity building

US Strategy and Activities in Russia

■ Goals / objectives

- Focus on addressing legislative and regulatory barriers to project development in Russia

■ Recent activities

- UNECE workshop held in Kemerovo (June 2008) to address financial barriers
- As part of UNECE project, Russian mine participated in roadshow in London with potential project investors
- EPA is working with IEA to develop CMM policy recommendations based on successes in other countries.

■ Upcoming activities

- Continue to work with IEA
- Plan for roundtable discussion with government stakeholders (to be scheduled in 2009, likely May or June)

US Strategy and Activities in Ukraine

- **Goals / objectives**
 - Focus on addressing legislative and regulatory barriers to project development in Ukraine
 - Update printed material on project opportunities for developers and other interested parties
- **Recent activities**
 - USAID supporting in-mine drilling project at Belozerskaya mine
 - EPA is working with Battelle and ARENA-ECO to develop CMM policy recommendations based on successes in other countries
- **Upcoming activities**
 - EPA project with ARENA-ECO will continue.
 - Update “Ukraine Handbook” with new introduction and profiles of coal mines
 - Hold roundtable/stakeholders meeting in Kiev (April 3, 2009)

US collaboration to promote CMM project development

- **Australia**

- Successfully collaborated to co-sponsor Subcommittee meeting, workshops
- US EPA is funding a technology demonstration project conducted by CSIRO in China

- **Italy**

- Mille grazie for hosting meeting and site visit in Sardinia (April 2008)

- **Japan**

- Successfully collaborated to co-sponsor several workshops, meetings

US collaboration to promote CMM project development

- European Commission
 - Looking forward to future collaboration, especially in Eastern Europe
- International Energy Agency
 - US EPA is sponsoring projects in China, Russia
- United Nations Economic Commission for Europe
 - Completed work to improve financing capacity for CMM projects in FSU
 - Working with UNECE Ad Hoc Group of Experts on CMM and World Coal Institute to develop a “Best Practices” guidance document on methane degasification, recovery, and usage

M2M Expo 2010

- EPA has collected information on the status of opportunities profiled at the 2007 Partnership Expo.
- EPA is beginning work with countries to identify new project opportunities to showcase at 2010 Expo.

Muchas gracias to our Mexican hosts

- US EPA Coalbed Methane Outreach Program

<http://www.epa.gov/coalbed/>

- M2M Partnership / China / Russia / Mongolia

Pamela Franklin

Franklin.pamela@epa.gov

+1 202 343 9476

- India / Mexico / Nigeria / Poland / Ukraine / APP

Jayne Somers

Somers.jayne@epa.gov

+1 202 343 9896