



COALBED METHANE EXTRA

A publication of the Coalbed Methane Outreach Program (CMOP)

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GMI Partnership Meeting a Success

In October 2011, more than 160 Partner Country representatives, government leaders, and technical experts from 31 countries gathered in historic Krakow, Poland, for the Global Methane Initiative's (GMI's) Partnership-wide meeting. The meeting began with site tours offered in four sectors—agriculture, coal, landfill, and oil and gas—as well as a reception and tour of World Heritage Site Wieliczka Salt Mine.

The next day, Marcin Korolec, Undersecretary of State with Poland's Ministry of Economy, welcomed attendees to the informational sessions. He emphasized the importance of methane as a clean energy source and GMI's role in providing an excellent platform for international cooperation. Also participating in the opening session were William Heidt, Deputy Chief of Mission at the U.S. Embassy; Paul Gunning, Acting Director, U.S. Environmental Protection Agency (EPA) Climate Change Division; Håvard Toresen, Deputy Director General from Norway's Ministry of the Environment, GMI's newest Partner



Polish Government, EPA and US State Dept. Officials at the welcoming plenary session of the Coal Technical Sessions
Photo: Jayne Somers, CMOP

Country; and Zbigniew Kamienski, Deputy Director from Poland's Ministry of Economy.

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CMOP News

2011 U.S. CMM Conference Success

A successful 2011 U.S. CMM Conference convened in Park City, Utah with nearly 100 participants from the US and international coal mine methane sector experts.



Conference participants listen to a presentation speaker
Photo: Mark Grady, ERG

Sessions included Policy and Legal Updates; Costs and Incentives for CMM Projects; Discussions on Global Ventilation Air Methane Mitigation Opportunities; and CMM Project Opportunities around the Globe.

Presentations from 15 speakers can be found on [CMOP's CMM conference website](#).

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GMI Partnership Meeting

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Steering Committee

The Steering Committee met to discuss the state of the Initiative and made several key decisions including unanimously welcoming Norway as a new Partner, and announcing the GMI Partnership Expo event, to be held in early 2013 in Vancouver, a scenic coastal seaport city in British Columbia, Canada.

Coal Mines Sector Activities

Activities for the coal mines sector included a site tour, a subcommittee meeting, and technical breakout sessions. Twenty-five participants from 14 countries traveled to the Central Mining Institute of Katowice's experimental mine "Barbara," where researchers discussed their work in improving mine safety. They demonstrated the potential impact of a coal dust explosion by conducting a real explosion in their test mine.



Controlled coal dust explosion on the grounds of the "Barbara" Experimental Mine
Photo: GMI Newsletter

The Experimental Mine "Barbara" in Mikołów was established in 1925 as a result of a State Mining Authority initiative. Since 1945 the mine has been part of the Central Mining Institute in Katowice with a central focus of research on dust and gas explosions, safe usage of blasting materials, and mine rescue techniques.

The mine currently has several main departments including gas hazard control; dust hazard control; blasting safety; explosion protection; and mining. It employs 100 people and its main goal is to assist the coal mining industry and other mining industries in predicting and fighting potential hazards.

Following this visit, participants visited Jastrzębska Spółka Węglowa S.A.'s "Pniówek" hard coal mine, where coal mine

methane (CMM) is recovered and utilized in a 10 megawatt (MW) electric power project and evaporative cooling system.



The Pniówek mine, southern Poland
Photo: GMI Newsletter

The "Pniówek" coal mine is a large mine in the south of Poland, 190 km south-west of the capital, Warsaw. The mining area represents one of the largest coal reserves in Poland with estimated reserves of 101.3 million tonnes of coal. The annual coal production is around 5.16 million tonnes.

The breakout sessions covered a number of topics, including best practices for CMM drainage and utilization, new and developing CMM technologies, discussions on unique methane sources from surface mines and ventilation air methane, an introduction to Australia's Clean Energy Future package and Coal Sector Assistance package, and an overview of CMM activities in Poland.

Perspectives on best practices, technologies, sources, policy, and project development were provided by representatives from several countries, including Australia, Canada, the Netherlands, Poland, Russia, Switzerland, the United Kingdom, and the United States.

Presentations from the meeting can be found on [GMI's "News and Events" web page](#). (Scroll to the bottom of the page and click on one of the "sessions" links.)

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CMOP News

CMM Conference, from page 1

Solvay Mine Site Tour

The conference included a site tour of Solvay Chemical’s mine methane flaring project at their Green River trona (natural soda) mine. Trona is a mineral mined using techniques (e.g. longwall mining) similar to those used in coal extraction, and methane



Touring the trona processing facilities
Photo: Mark Grady, ERG
Courtesy of: Solvay Chemicals

produced during mining operations can be drained in similar ways to those in coal mines. The installed methane drainage system at the Green River mine now captures 30% of the underground methane emitted when extracting trona.

Sindicatum, have an advisory role in this project, and their website states: “The project was commissioned in August 2010 and is initially flaring mine gas while the utilization system is constructed. In January 2012, the project will begin utilizing the mine

gas to generate heat in the on-site trona processing plant. The project was listed under the Climate Action Reserve in April 2010, and is expected to generate approximately 1.3 million Climate Reserve Tonnes (CRTs) over its life.



The Solvay Mine methane capture and utilization site
Photo courtesy of: Sindicatum

The project utilizes a traditional gob gas collection system and a state of the art, enclosed incinerator that destroys mine methane. During the utilization phase, the project will transport mine methane several kilometers to the processing plant. The gas will be conditioned and injected directly into existing boiler equipment. The project utilizes a new monitoring and measurement system that integrates with the mine’s existing control system and generates real-time extraction and destruction data.” (Source: [Sindicatum CMM Projects](#))

Conference participants toured the trona processing facilities and the methane collection and incineration site.



A close-up look of the CMM incinerator at the Solvay Mine site
Photo: Mark Grady, ERG
Courtesy of: Solvay Chemicals

CMM Capture and Use Workshop, Ukraine

Felicia Ruiz of the USEPA Coalbed Methane Outreach Program (CMOP), along with the Deputy Minister of Energy and Coal Industry of Ukraine, provided the keynote speeches at a Seminar on State-of-the-Art Coal Mine Methane Capture and Use Technologies and UNECE Best Practices Guidance for Effective Methane Drainage and Use Workshop in Donetsk, Ukraine.

The two-day GMI event, held on 21-22 September, was attended by nearly 100 participants and brought together key experts in CMM recovery and utilization to share information about modern drilling, ventilation air methane oxidation technologies, and methane concentration systems - twelve speakers gave formal presentations.

For more information, including downloadable presentations from the seminar, visit the [September News and Events](#) section of GMI's website.

World Mining Congress, Turkey

Dr. Jayne Somers (CMOP) participated in the 22nd World Mining Congress and Expo in Istanbul, Turkey. At the conference, Dr. Somers provided an overview of sources of CMM, the potential for its capture and energy use, and examples of international project development and financing through the Global Methane Initiative, as well as opportunities within Turkey.

More information, including photos, can be found on the [Expo's website](#).

EPA News

EPA Announces New GMI Grant Solicitation

The U.S. Environmental Protection Agency (EPA) has issued a request for proposals (RFP) to support the Global Methane Initiative (GMI) by funding projects and activities that advance methane recovery and use as a clean energy source. The total estimated amount for this competitive funding opportunity is up to US\$5 million.

EPA expects to award up to 35 cooperative agreements through this announcement, ranging in value from approximately \$100,000 to \$750,000 USD per award. The project period for awards resulting from this solicitation will begin in January 2012. Proposed project periods may be up to three years.

EPA seeks proposals from organizations including international governments, not-for-profit organizations, states, local governments, and universities. Successful proposals will support GMI's Country Action Plans and advance project development in the following Partner Countries:

Argentina, Brazil, Bulgaria, Chile, China, Colombia, Dominican Republic, Ecuador, Ethiopia, Georgia, Ghana, India, Indonesia, Jordan, Kazakhstan, Republic of Korea, Mexico, Mongolia, Nicaragua, Nigeria, Pakistan, Peru, Philippines, Poland, Russia, Serbia, Thailand, Turkey, Ukraine, and Vietnam.

Proposals are due by 19 January 2012, 4:00 p.m. EST. All proposals, however transmitted, must be received by EPA by the closing date and time to receive consideration. See [EPA's GMI Grant Solicitation web page](#) for additional information on how to apply.

Note that the application takes time to complete so please begin the process early!

US EPA Announces Awards for 2010 GMI Grant Solicitation

In August 2010, EPA awarded funds for 27 grants in GMI countries. Projects receiving funding included feasibility studies, training and capacity building, and national methane inventories.

Recipients were selected from a competitive field of applicants and will support the Initiative's goals of reducing methane emissions and advancing project development in 17 Partner Countries: Argentina, Brazil, Bulgaria, China, Colombia, Ethiopia, Mexico, Mongolia, Nigeria, Pakistan, Philippines, Poland, Russia, Serbia, Turkey, Ukraine, and Vietnam.

For more information on past grants awarded please see [EPA's 2010 GMI grant web page](#).

1st Indo-U.S. Workshop on Coal Mine Methane

The Central Institute of Mining and Fuel Research (CIMFR), with support from USEPA, held a coal mine methane workshop in Dhanbad, Jharkhand, India, October 17-20. The organizers, CIMFR and the Council of Scientific and Industrial Research, arranged a comprehensive program with both Indian and international speakers. Approximately 50 participants attended the workshop.



Workshop Participants
Photo: Jayne Somers, EPA

Geologic, modeling, economic, environmental and safety topics related to CMM were discussed along with engineering aspects such as well completions, and possible utilization of abandoned mine methane and ventilation air methane.

[More information](#) (PDF, 1 pg, 1.1MB)

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GMI Updates

GMI Partnership Meeting *from page 2*

Coal Subcommittee Meeting Highlights

Representatives from Partner Countries, including acting Co-Chairs from China and India, shared updates related to CMM activities.

- **Role of abatement / flaring.** The Coal Mine Subcommittee meeting also included a discussion of a draft policy paper on the appropriate role for methane abatement (e.g., flaring) in the coal mine sector. "[Flaring of Coal Mine Methane: Assessing Appropriate Opportunities](#)" (PDF, 8 pp, 113K) The draft paper noted that the first priority for CMM projects would be to recover and utilize the methane, but flaring may be an appropriate abatement strategy in some cases.
- **CMM Technology Database.** An updated, expanded, and interactive [CMM Technology Database](#) (PDF, 36 pp, 344 KB), was presented at the meeting. This is a "living" document for accessing information about emerging technologies and businesses in the coal mine methane sector.

The full [Meeting Minutes](#) (PDF, 25 pp, 201 KB) are now available on GMI's Events website.

7th Session of the Ad Hoc Group of Experts

The United Nations Economic Commission for Europe (UNECE) Ad Hoc Group of Experts on Coal Mine Methane convened its 7th session on October 11, 2011, in Krakow, Poland, immediately prior to the GMI All-Partnership meeting.

25 delegates participated in the discussions, which reviewed the activities under the auspices of the Group of Experts, including workshops to disseminate the Group's [Best Practices Guidance for Effective Methane Drainage and Use at Coal Mines](#) (PDF, 86 pp, 1.9 MB).

For more information on the meeting and the work of the Group of Experts, see the [UNECE Committee on Sustainable Energy](#) website.

GMI Welcomes Two New Partner Countries



In October, GMI welcomed its newest Partner Country, Sri Lanka. Delegates from Sri Lanka will join the Agriculture and Landfill Subcommittees as well as the new Municipal Wastewater Subcommittee. With its mostly rural population, Sri

Lanka plans to expand its development of small- and medium-scale biogas digesters and share its experience with anaerobic digester (AD) system design standards. The country is also interested in implementing projects to reduce methane emissions as they transition to sanitary landfills. By 2020, Sri Lanka aims to achieve a 20 percent contribution from renewable sources, as established by the country's Renewable Energy Policy.



On 12 October 2011, during the GMI Partnership-wide meeting, the Steering Committee approved Norway's request to join GMI. Norway joins 40 other Partner Countries and will participate in the Oil & Gas Subcommittee. Norway has experience and opportunities for methane capture and use projects in the oil and gas sector and is looking forward to collaborating with other GMI Partner Countries.

Based on data from the U.S. EPA's Global Anthropogenic Emissions of Non-CO₂ Greenhouse Gases [report](#) (PDF, 274 pp, 4 MB), Norway's 2010 estimated anthropogenic methane emissions totaled 5.4 million metric tons of carbon dioxide equivalent (MMT_{CO2E}). Methane emissions from natural gas and oil systems represent more than 12 percent of Norway's anthropogenic methane emissions—0.67 MMT_{CO2E}.

COP17 - Durban, South Africa

The United Nations Climate Change Conference, Durban 2011, brought together representatives of the world's governments, international organizations and civil society. The seventeenth session of the Conference of the Parties (COP17) took place from November 28 to December 9, 2011.

The discussions focused on advancing, in a balanced fashion, the implementation of the Convention and the Kyoto Protocol, as well as the [Bali Action Plan](#), agreed at COP 13 in 2007, and the [Cancun Agreements](#), reached at COP 16 last December. The Global Methane Initiative hosted a side event at the Durban meeting featuring Jonathan Pershing from the US Department of State.



Durban
Photo: UNFCCC website

New Publications

IEA World Energy Outlook 2011 (WEO)

The WEO-2011 looks at how the global energy system will evolve in the next 25 years, taking account of the broad policy commitments that have already been announced by countries around the world to address climate change and growing energy insecurity.



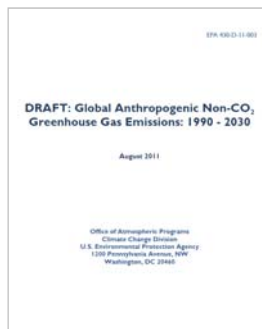
The WEO also focuses on the climate change issue with an assessment of what infrastructure "lock-in" means for maneuverability to meet the 2 degrees Celsius goal, the potential implications of a rapid slowdown in the use of nuclear power for the global energy landscape, the role of coal in an emissions-constrained world and the consequences on global energy markets of a possible delay in oil and gas sector investment in the Middle East and North Africa. (November, 2011)

Draft Global Non-CO2 Emissions Projections Report: 1990-2030

EPA has released a new draft update in 2011 to its global non-CO2 emissions projections, last published in 2006. The draft report provides estimated projections to 2030 for emissions from more than twenty emissions sources. The gases included in this report are methane (CH₄), nitrous oxide (N₂O), and fluorinated greenhouse gases (HFCs, PFCs, and SF₆).

Global non-CO₂ emissions are projected to increase significantly between 2005 and 2030 unless further actions are taken to reduce emissions. Between 1990 and 2005, methane recovery and other mitigation efforts have decreased the rate of growth, but total emissions of non-CO₂ greenhouse gases have nonetheless increased. Economic and production growth will continue to drive emissions increases in the future unless additional mitigation actions are adopted.

The report has been reviewed by external expert reviewers from the private sectors, academic institutions, and other government agencies. EPA is releasing the report as a draft to allow for further review and development before being finalized.



News In Brief

Readers are encouraged to provide comments on the report to EPA. (August, 2011)

Coal India Invites Mining Firms to Bid on 18 Closed Mines

Aiming to develop methane resources from 18 abandoned underground mines, state-run Coal India Limited (CIL) has invited major firms to bid. The abandoned mines are owned by three subsidiaries of CIL: Eastern Coalfields, Bharat Coking Coal and Central Coalfields.

"After a pre-notice inviting tender (NIT) meeting with the short-listed parties, the government had approved the model NIT document. However, in the first round of limited tendering, none of the shortlisted parties responded. We are looking to go for a second round of tendering in another two months," said N C Jha, Chairman and Managing Director, Coal India Limited on September 20, 2011. Among the shortlisted firms were Arcelor-Mittal India, Rio Tinto and Essar Mineral Reserves.

The 18 abandoned mine reserves account for around 1.6 billion tons of coking and thermal coal. The mines were abandoned because of a lack of safety measures and necessary development technology. If there are no interested bidders for the mines once again, CIL could still take up open cast mining in the areas after completing relocation and rehabilitation packages for affected local populations.

Meanwhile, CIL's production decreased by 16 million tons in September and August due to heavy rainfall in Orissa, Jharkhand and some mines of ECL in West Bengal.

Sources: [Times of India](#), [CommodityOnline](#)

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CBM/CMM Events

2012 International Conference on Clean and Green Energy (ICCCGE 2010)

5-7 January, 2012

Hong Kong, China

Website: <http://www.iccge.org/cfp.htm>

Coal Seam Gas: Risks and Returns

8-10 February 2012

Brisbane, Australia

Website: <http://www.csgrisk.com>

Underground Mine Planning and Design 2012

13-14 March, 2012

Sydney, Australia

Website: <http://www.mineplanninganddesign.com.au/Event.aspx?id=655848>

3rd Unconventional Hydrocarbons Summit 2012

22-23 March 2012

Beijing, China

Website: <http://www.cdmc.org.cn/uhs2012/>

Planet Under Pressure 2012

26-29 March, 2012

London, United Kingdom

Website: http://www.planetunderpressure2012.net/session_kirschke.asp

2012 8th Asia Mining Congress

26-30 March, 2012

Singapore

Website: <http://www.terrapinn.com/conference/asia%2Dmining%2Dcongress/>

CSG 2012

17-18 April, 2012

Brisbane, Australia

Website: <http://www.csghsummit.com.au/>

Coalbed & Shale Gas Symposium

14-18 May, 2012

University of Alabama, Tuscaloosa, USA

Website: <http://training.ua.edu/coalbed>

Development of Coalbed Methane Resources

16 May, 2012

Cardiff University, Cardiff, United Kingdom

Website: http://www.researchgate.net/conference/Development_of_coal_bed_methane_resources/

14th U.S./North American Mine Ventilation Symposium

17-20 June 2012

Salt Lake City, Utah USA

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Coal Seam Methane World 2012

31 July – 2 August, 2012

Brisbane, Australia

Website: <http://www.terrapinn.com/conference/coal-seam-methane/index.stm>

BIT's 2nd International Symposium of Unconventional Oil & Gas

20-22 September 2012

Dalian, China

Website: <http://www.bitconferences.com/uog2012/>

MINExpo International 2012

24-26 September 2012

Las Vegas, Nevada USA

Website: <http://www.minexpo.com>