



**Economic and Social
Council**

Distr.
GENERAL

ECE/ENERGY/GE.4/2008/2
30 January 2009

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

COMMITTEE ON SUSTAINABLE ENERGY

Ad Hoc Group of Experts on Coal Mine Methane

Fourth session
Geneva, 16-17 October 2008

**REPORT OF THE AD HOC GROUP OF EXPERTS ON COAL MINE METHANE
ON ITS FOURTH SESSION**

I. INTRODUCTION

1. The fourth session of the Ad Hoc Group of Experts on Coal Mine Methane was held from 16 to 17 October 2008. Additional background and detail on the items summarized in the report are available on the UNECE website at: <http://www.unece.org/energy/se/docs/cmm4.html>.

II. ATTENDANCE

2. The session was attended by representatives of the following UNECE member countries: Germany, Italy, Poland, Russian Federation, Sweden, Ukraine, United Kingdom of Great Britain and Northern Ireland, and United States of America.

3. The World Coal Institute and Methane to Markets Partnership were also represented.

III. ADOPTION OF THE AGENDA

(Agenda item 1)

Documentation: ECE/ENERGY/GE.4/2008/1

4. The provisional agenda was adopted without amendment.

IV. ACTIVITIES AND PRIORITIES OF THE COMMITTEE ON SUSTAINABLE ENERGY AND ANY MATTERS FOR CONSIDERATION BY THE AD HOC GROUP OF EXPERTS

(Agenda item 2)

Documentation: ECE/ENERGY/76.

5. The Director of the Sustainable Energy Division, Mr. F. Romig, opened the meeting. He informed the meeting that the Committee on Sustainable Energy assimilated guidance from the sixty-second session of the Commission (E/2007/37-E/ECE/1448) and from the 2005 Work Plan on ECE Reform. A greater coordination with the International Energy Agency and Energy Charter, with emphasis on energy security, was reiterated by the Commission. The meeting was briefed that at its sixteenth session the Committee on Sustainable Energy had held a special one day working session on “Investing in Energy Security Risk Mitigation” and a publication based on the proceedings of the meeting would be issued shortly. The Director also underlined that one of the important features of Committee’s work was the emerging convergence of sustainable energy and energy security policies: coal mine methane (CMM) clearly fitted into this category.

6. The Director welcomed the positive developments of the CMM markets and carbon mitigation projects since the third meeting of the Group of Experts. Most of the Kyoto Protocol-related activities on CMM projects were occurring in China; projects in the Russian Federation, Ukraine and other transition economies were also moving forward, and healthy growth was being seen in voluntary markets in the United States. Mobilization of billions of dollars in capital was ready to be invested in CMM and other carbon mitigation projects; mines in the UNECE region with CMM prospects also offered good opportunities for investment. The Director underlined how Ventilation Air Methane (VAM) was a key technological innovation, but noted that much remained to be done in promoting mine safety.

7. He encouraged the Group of Experts to continue its efforts to promote CMM recovery and use, and suggested that a request for a new mandate from the Committee made at its seventeenth session in November 2008 should be included in the conclusions and recommendations of the meeting.

V. ELECTION OF OFFICERS

(Agenda item 3)

8. The meeting expressed appreciation for the efforts of the Bureau of the Ad Hoc Group of Experts and acknowledged the contributions and service of Mr. Roland Mader who had served as Chairman of the Ad Hoc Group of Experts since September 2005 and of Mr. Grigoriy Present, who had served as Vice-Chairman since December 2004.

9. The Group of Experts elected a new bureau to serve for 2009-2010: Mr. R. Pilcher (United States of America) as Chairman, and Ms. P. Franklin (United States of America), Mr. Y. Bobrov (Ukraine), Mr. C. Davies (United Kingdom), Mr. R. Mader (Germany), Mr. J. Skiba (Poland), and Mr. S. Shumkov (Russian Federation) as Vice Chairmen.

VI. OPENING REMARKS FROM THE CHAIR

(Agenda item 4)

10. The Chairman welcomed the participants and thanked the previous Chairman and Bureau for their achievements. He stated that since its inception, the Group of Experts had dedicated its efforts to communicating the need to increase recovery and use of CMM in order to enhance the economic performance of coal mining, whilst increasing mine safety and improving the local and global environment.

11. He then noted the strong relationship of using best practices to capture and use methane while promoting safety and preservation of the environment. The Chairman, in collaboration with the Bureau and the Group of Experts, would further develop the mandate for the Group of Experts' next term.

VII. REVIEW OF THE PROGRAMME OF WORK FOR 2007/2008

(Agenda item 5)

Documentation: ECE/ENERGY/GE.4/2007/2, ECE/ENERGY/GE.4/2008/3;
ECE/ENERGY/GE.4/2008/4

12. The Chairman reviewed progress on the programme of work for 2007/2008 adopted at the third session of the Ad Hoc Group of Experts.

(a) Documents/publications: At its third session, the Ad Hoc Group of Experts agreed to develop a glossary of terms in common use throughout the global CMM industry as a reasonable starting point for a longer-term goal of harmonizing terminology and technical standards in the industry. The effort to develop the glossary also supported a commitment by the Ad Hoc Group of Experts to support development of uniform technical standards and terminology within the Methane to Markets Partnership. The Glossary of CMM terminology has been translated into Russian and French and is available on the UNECE website. It will be reviewed on a regular basis and updated as needed.

(b) Workshops, conference: The Ad Hoc Group of Experts supported activities to promote focused efforts in Central and Eastern Europe and the Commonwealth of Independent States (CIS), including workshops, preparation of business plans and facilitated communications with sources of finance.

(c) Assess practical applications and feasibility for use of low-concentration methane: The Ad Hoc Group of Experts discussed case studies that highlight opportunities to further develop the energy resources and optimize expertise and technologies that exist in Ukraine and the Russian Federation. The meeting noted that there were considerable health and safety

concerns in connection with the use of low-concentration methane, which would need to be addressed.

(d) Task Force on Mine Safety: The Ad Hoc Group of Experts published case studies that illustrate the economic benefits of mine safety improvement.

(e) Recovery and use of CMM: The Ad Hoc Group of Experts surveyed coal mining countries to determine if legislation might act as barriers to best practices in recovery and use of CMM.

(f) Cooperation with the Methane to Markets Partnership, US Environmental Protection Agency and World Coal Institute: The Ad Hoc Group of Experts initiated a draft guide on best practices for recovery and use of CMM.

13. The Central Mining Institute of Katowice made a presentation on the Report on the CMM Workshop on New Trends in Coal Mine Methane Recovery and Utilization, held in Poland in February 2008. The event was part of the International Mining Forum (<http://www.imf.net.pl>), and it gathered together international methane experts. The workshop focused on upstream and downstream technical solutions for managing methane; participants learned best practices in successfully managing CMM emissions. Financing methane drainage improvements and end-use options were also addressed.

VIII. ACTIVITIES OF THE AD HOC GROUP OF EXPERTS WITH RESPECT TO MINE SAFETY

(Agenda item 6)

14. Mr. Roland Mader, Vice-Chairman of the Group of Experts, made a presentation on the summary of responses on outdated, ineffective and counterproductive mine safety laws, policies or standards. He underlined that extensive evidence of mine safety was compromised by outdated legal standards and conflicting technical requirements, thus increasing mine safety risks. The secretariat, with the assistance of the Bureau, developed and distributed a questionnaire to the Group of Expert in September 2007. It was noted that responses had only been received from China, Czech Republic, Mexico, Russian Federation, Ukraine and United States. A review of the legislations revealed that inconsistencies and lack of clear legislation are still common. According to the Vice-Chairman, project sponsors should analyse and manage the risk posed by conflicting and/or unclear legislation on a case by case basis, while it is necessary to raise awareness through legislators.

15. The Ad Hoc Group of Experts agreed that the global coal mining industry lacks a set of recommended principles and standards to guide mine operators, regulators, government officials and technical professionals in more effectively managing their methane problems, especially in emerging economies. In this respect a presentation was made on the Cooperative Project on Methane Capture and Use to Improve Mine Safety. The organizations supporting the initiative – Methane to Markets Partnership, UNECE, World Coal Institute – aim to contribute to improving mine safety practices through the development of a technical report providing best practices guidance on methane control. The report will detail the benefits, objectives and principles of coal mine methane drainage and utilization in order to reduce fatalities and injuries of mine workers,

protect mine property, reduce greenhouse gas emissions and efficiently utilize valuable energy resources. It was also envisaged that a publication might be prepared by early 2010. A Drafting Group, to be composed of five or six experts selected by the supporting organizations, will be responsible for developing the technical content of the report. Its first meeting will be held in conjunction with the Eighth International Symposium on CBM/CMM and Carbon Trading in China and the International Workshop on Mine Methane Emission Reduction in Beijing, 4-5 December 2008.

16. A presentation was also made on the Review of Mine Safety Regulations. It was noted that regulations on CMM and coal mine safety are fragmented, prescriptive and ineffective, and further support was therefore envisaged to assist cooperation between project developers and lawyers to build structured arguments for change, and lobby with policymakers in order to consolidate regulations with experts' inputs, improve mine safety and encourage CMM utilization for environmental and commercial benefits.

17. The meeting was informed by the Vice President of the Academy of Mining Science of Russia, that the Academy, in celebration of its fifteenth anniversary and under the aegis of UNESCO, will organize a conference on "Power, mineral resources and a sustainable development in the world". The event will take place on 13-14 May 2009 in Paris at UNESCO.

18. The meeting was informed by the Vice-Chairman about main points of concern on misconceptions about the slow progress made by the coal mine projects through CDM:

- (a) Only about 10 of more than 60 CMM projects have been registered by the Clean Development Mechanism Executive Board (CDM EB) to date, which questions the role of carbon credits from this sector as a major source of supply.
- (b) The technology used is relatively new, expensive and complicated.
- (c) There are strict rules about the concentration of the gas that can be used.
- (d) Mining companies direct most of their money towards their core activity of mining, with money from CDM projects being only a minor revenue stream at most mines.
- (e) Project Design Documents (PDDs) tend to be overoptimistic about future emission reductions as demonstrated by lower credit issuance levels than projected in PDDs.
- (f) Forecasting of emission reductions is very difficult.
- (g) Monitoring of CMM projects is perceived to be more complex than for other CDM projects.
- (h) Audits by third-party verification companies can be time consuming.
- (i) Methane content of CMM differs widely from one mine to another and even within one particular project.
- (j) Higher risk exists for CMM projects than for most other project types because of the imperative for mine safety and real and perceived safety risks, both from an operational as well as from a reputational perspective.

19. The meeting agreed that these points did not reflect reality and decided that a letter would be prepared in response to the article "*Coalmine projects make slow progress through CDM*", published on 4 September 2008, by the review "Point Carbon" in order to address misconceptions on the slow progress made by the coal mine projects through CDM.

IX. STATUS OF CARBON AND CMM MARKETS

(Agenda item 7)

20. The United States Environmental Protection Agency (US EPA) made a presentation on “Global Updates of the Coal Mine Methane Project Development”. CMM projects have environmental, energy security and economic benefits. The global CMM project opportunities abound especially at underground mines for drained gas, ventilation air methane (VAM) and abandoned (closed) mines. Carbon financing is an important revenue stream for many CMM projects: in compliance markets, through the Clean Development Mechanism (CDM) and Joint Implementations, and in voluntary markets with a growing demand for CMM projects.

21. A presentation was made on the final Technical Report of the UNECE extrabudgetary project to facilitate financing of CMM projects in Central and Eastern Europe and the CIS. The overall project resulted in a mine methane project document and the coal operator is now actively seeking investors. The UNECE project also resulted in several useful insights into markets barriers and underlined which future activities should be focused on:

(a) Improve gas drainage and safe management: understand what is the technical potential for sale gas drainage/transportation; identify and work with a few mines so as to improve their drainage/transportation; showcase potential which requires mines’ acceptance;

(b) Improve project delivery: recognize projects’ technological risks; identify the main risks and outline approach to minimize them; showcase effective implementation at different projects;

(c) Identify “second tier” opportunities: smaller/isolated mines, mines owned by smaller companies, and opportunities to transform or use poorer quality gas, such as ventilation air methane. This will require mine specific, not just national-level, contacts and significant time of experts.

22. In concluding the discussion, the Ad Hoc Group of Experts wished to convey the lessons learned during the project’s implementation. It was hoped that future activities supported by the US EPA, Methane to Markets Partnership, or UNECE could benefit from this knowledge to make further strides in catalyzing the deployment of CMM projects. The Ad Hoc Group of Experts expressed great appreciation to the US EPA for the multi-year grant to the UNECE to facilitate development of CMM projects in the CEE/CIS region that was completed in September 2008.

23. In addition the meeting received presentations providing country and regional updates on developments within the CMM industry:

- (a) Successful CMM Projects in United Kingdom;
- (b) CMM utilization in Ukraine: potential and barriers;
- (c) CMM feasibility study in China.

24. Presentations provided to the secretariat are available on the UNECE website (http://www.unece.org/energy/se/pp/cmm_4ahge_08.html).

X. DEVELOPMENT AND DEPLOYMENT OF VENTILATION AIR METHANE
(Agenda item 8)

25. Ventilation air methane (VAM) technologies suppliers from Australia, China and the United States were invited to present their project developments on VAM and VAM potentials. The meeting received a presentation by an Expert from Sweden on “Proven Technology for VAM Abatement”. It was explained how the VOCSIDISER can abate VAM and can convert VAM into useful energy and that the “WestVAMP” project in Australia is the first large scale VAM power plant using VAM as a primary fuel. A full scale VAM Power Plant can reduce one million tons of CO₂ emissions annually, providing a significant positive impact on global warming.

XI. ACTIVITIES AND COOPERATION WITH OTHER ORGANIZATIONS
(Agenda item 9)

26. The meeting received the following presentations:

- (a) Review of the carbon market, including perspectives on post-2012 uncertainty for investors;
- (b) Update on Methane to Markets (M2M) Partnerships Activities;
- (c) Projects of CMM utilization in the Kuzbass Coal basin, Evaluation of CMM Emission in Russian Federation.

27. The meeting envisaged continuing the cooperation with other international and intergovernmental organizations, including the United Nations Development Programme, World Coal Institute and the Methane to Markets (M2M) Partnership;

XII. RECOMMENDATION TO THE COMMITTEE ON SUSTAINABLE ENERGY ON THE MANDATE OF THE AD HOC GROUP OF EXPERTS ON COAL MINE METHANE
(Agenda item 10)

28. The Ad Hoc Group of Experts agreed to request the Committee on Sustainable Energy, at its seventeenth session in November 2008, to extend its mandate for two years, 2009-2010.

XIII. PROGRAMME OF WORK FOR 2009-2010
(Agenda item 11)

29. After discussion, the Ad Hoc Group of Experts:

- (a) Supported the Mine Degasification Best Practices Guidance Project (whose meeting is scheduled in Beijing, December 2008) with the goal of developing a focused strategy for promoting the economic benefits of mine safety improvements and to prepare a potential briefing paper thereon;

(b) Reiterated the decision of the third session of the Ad Hoc Group of Experts to further investigate the technical options for using of low-quality coal mine methane because of its health and safety hazard, and also because of its energy resource potential in many UNECE countries;

(c) Reiterated the decision of the third session of the Ad Hoc Group of Experts to assess whether regulatory requirements are inhibiting innovation in methane capture and utilization with the goal of preparing a briefing paper on possible problems with existing regulatory requirements;

(d) Agreed, as a follow up to the Final Technical Report to the US EPA Grant, to draw the lessons learned in the grant implementation, including financing CMM projects;

(e) Noted that the UNECE's involvement, as the implementing agency of the US EPA Grant, in supporting project financing and development was well-received, especially amongst investors, project developers, and technology suppliers;

(f) Further noted that Governments were also generally positive, and were especially interested in the capacity-building component. Mining companies did see value in the capacity-building and training as reflected in attendance at training workshops and engagement with the UNECE/US-EPA project experts considering the preparation of proposals and business plans for CMM projects;

(g) Agreed to address misconception regarding under-delivery of Carbon Credits from CMM projects;

(h) Acknowledged the preparation of the draft Glossary of Coal Mine Methane Terms and Definitions (ECE/ENERGY/GE.4/2008/3), potentially to be issued as a UNECE publication;

(i) Expressed appreciation for the opportunity to cosponsor a coal mine methane workshop in Krakow, Poland in February 2009 as part of the Polish Coal Congress and in cooperation with the Central Mining Institute of Katowice and AGH University of Science and Technology of Krakow;

(j) Welcomed the continued cooperation with other international and intergovernmental organizations, including the United Nations Development Programme, World Coal Institute and the Methane to Markets (M2M) Partnership;

(k) Requested the secretariat and the Bureau to develop a strategy for increasing participation by the coal mining industry in the Ad Hoc Group of Experts' future activities.

XIV. OTHER BUSINESS

(Agenda item 12)

30. A clear concern amongst the participants of the fourth session was the low representation of the coal industry, which had been very strong in previous sessions. For the future success of the Ad Hoc Group of Experts, it was considered essential that the meetings take place with

substantial participation and contributions from the coal sector. The Ad Hoc Group of Experts requested that the Bureau and the secretariat consider and pursue options for increasing participation.

XV. ADOPTION OF THE REPORT OF THE MEETING

(Agenda item 13)

31. It was agreed that a concise report of the session focusing on the conclusions and recommendations would be prepared by the secretariat and circulated to the Bureau of the Meeting for approval, upon which it would be circulated to member countries.
