



Methane to Markets

Oil & Gas Subcommittee Report to Steering Committee

Dr. Kaplan Basniev, CO-CHAIR

Russia

Javier Bocanegra, CO-CHAIR

Mexico

Michael Layer, Vice Chair

Canada

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Overview

- **Sector Overview and Future Action Plan Discussion**
- **Issues for Consideration/Decision by the Steering Committee**
- **Activities since the 2007 Beijing Meeting**
 - Recent Subcommittee meetings
 - Partnership Expo Involvement/Marketing Efforts
 - Selected Subcommittee Achievements
 - Activities by Country
- **Next Steps and Conclusions**

Oil & Gas Committee Overview

- The Oil and Gas Subcommittee are engaged globally in a broad array of projects and project development activities
 - International awareness and collaboration in M2M projects is growing
 - The Project Network continue to demonstrate their commitment to the M2M Partnership and provide significant capacity to significantly reduce global methane emissions from Oil and Gas industry infrastructure
 - However...we would like to be doing so much more
- As the M2M Partnership begins the process of strategic planning for the future role of the Partnership in global climate change, the Oil & Gas Subcommittee would like to:
 - Build upon the successes to date
 - Identify for the SC, obstacles which have been identified to date
 - Collaborate with the SC in developing strategies and actions to more effectively establish the international relevance of the M2M Partnership and integrate M2M solutions into existing and emerging climate change objectives and mechanisms

Oil & Gas Committee Overview

- **Key obstacles to project development in this sector**
 - **Jurisdictional**
 - Methane emissions reductions have not been effectively linked to domestic or global climate change policy
 - Hence, M2M Partnership’s value added potential is often not well understood and necessary resources to implement results oriented CH₄ reduction projects are not available
 - This can precipitate a pattern that results in M2M Partnership project activity being marginalized rather than prioritized because **“zero results = zero resources”**
 - Where M2M project results exist, they are often not legitimized within existing climate change objectives (e.g., CCS based climate change planning groups)
 - Regulatory uncertainty as domestic climate change policy develops
 - reluctance by industry to take early action before caps, credits or offsets are determined

Oil & Gas Committee Overview

- **Key obstacles to project development in this sector**

Within Industry

- Perception that opportunity costs are too high for project implementation; lack of awareness of financial opportunity
- Inconsistent inclusion of methane emissions reduction objectives within operational incentive structures
- Incremental economics approach to operational management
 - Project implementation is a significant cost and resulting increased CH₄ sales volumes are often not monetized upstream of sales meters
- Regulatory uncertainty
- Exclusion by government during climate change policy development

Considerations for the Steering Committee

- **Possible Actions for Consideration**
 - Revise Subcommittee Action Plan and country-specific strategic plans to effectively establish M2M complementarity to existing and emerging climate change frameworks (Domestic and International)
 - Methane emissions reductions are a highly effective and potentially profitable near term realization of reduced GHG emissions to complement medium & long term CCS
 - Uptake of existing, and ongoing development of new M2M solutions can help jurisdictions put climate change policy into immediate and measureable global action
 - Awareness of implementable M2M solutions can also support effective development of “achievable emissions reduction policy”
 - Work collectively to globally position M2M as a platform whereby international jurisdictions can put global climate change policies into immediate action

Subcommittee Achievements since November 2007

- **Subcommittee Meeting and Tour of Eni's Research Center of Monterotondo: 19-20 May 2008 in Rome, Italy**
 - 18 Oil & Gas Subcommittee and Project Network members attendees
 - Countries represented included: Canada, Italy, Mexico, Poland, Romania, Russia, the United States and the European Union
 - Brief description of results: Each Partner country is encouraged to develop their country-specific strategy, the Subcommittee agreed to implement several informal mechanisms for acknowledging Project Network and to increase involvement, and the ASG will coordinate with all Subcommittees to develop recommendations for more formal mechanisms to increase involvement

- The meeting also included a tour of the Eni Research Center of Monterotondo and on-site equipment demonstration

Subcommittee Achievements since November 2007 (continued)

- **Support for the Partnership-Wide and Steering Committee Meeting in Monterrey, Mexico**
 - Developed agendas for the Technology Transfer Workshop – site tour to the Burgos Gas processing Center of Pemex, technology demonstration and Subcommittee Meeting
 - Prepared meeting material to work with Partners and Project Network members on planning for the 2010 Partnership Expo

Subcommittee Achievements since November 2007 (continued)

- **Overall Partnership Outreach**
 - Contributed and/or co-hosted several technical training events including partnering with the World Bank Global Gas Flaring Reduction Initiative (GGFR) and the Latin America and Caribbean Oil and Gas Association (ARPEL)
 - Canadian Oil & Gas Subcommittee co-chair visited Romania to introduce M2M Partnership and inform them how M2M solutions can assist Romania in achieving environmental performance requirements under the EU
 - Romania & US EPA currently developing an opportunity evaluation
 - Discussions ongoing to have Romania join M2M

- **Strategic Project Development and Implementation**
 - Projects and cooperation with Argentina, Brazil, Canada, China, Ecuador, India, Italy, Mexico, Poland, Russia and Ukraine-based oil and gas companies

Subcommittee Achievements since November 2007 (continued)

- **ON TIME Tool (formally the Nodal Analysis Tool)**
 - Launched the *ON TIME Tool* on the Methane to Markets Web site
 - On-Time tool identifies methane emissions reduction technologies and practices at each operational node in the entire oil and gas industry.
 - Developing a project idea registration form to engage Project hosts, sponsors, financiers and brokers, and provide detailed case studies of implementable projects

methanetomarkets.org/oil-gas/ontimetool

Activities by Country

- **Argentina**

- With the Argentine Oil and Natural Gas Institute, Pan American Energy, TGS and EPA hosted a technology transfer workshop and technology demonstration. Also undertaking several pre-feasibility studies with oil and gas companies operating in Argentina.

- **Brazil**

- In addition to outreach to governmental institutions and Petrobras, issued a grant to promote an environmental management system that accounts for methane emissions reduction opportunities and successes

Activities by Country (continued)

■ **Canada**

Domestic Activity

- Secured \$1.8 million (50% gov't & 50% industry) over 4 years to further develop continuous monitoring quantification and source location technology for CH₄
- Ongoing development of the M2M *ON TIME* web based analysis tool
- Government of Canada M2M administrators provide \$135K to support M2M projects for CH₄ Methodology development for Oil and Gas operations

International Activity

- Visited Romania to introduce M2M Partnership and inform them how M2M solutions can assist Romania in achieving environmental performance requirements under the EU
- Engaged with US EPA and China National Petroleum Company in ongoing China based M2M projects

Activities by Country (continued)

- **China**
 - China University of Petroleum, EPA, and RTI International organized a workshop on methane emissions from oil and natural gas operations and on how methane emission reductions can benefit private companies, the local economy, and the environment
 - Continued support of the identification and analysis of methane emissions reduction opportunities at all three major Chinese oil and gas companies

Activities by Country (continued)

■ **Ecuador**

- Continued cooperation with key oil and gas companies to identify and implement methane emissions reduction projects
- Started a grant with Ecuadoran university to analyze methane emissions capture and use from oil production field

■ **India**

- EPA and ONGC (state-owned oil and gas company) collaborated on:
 - Four technology transfer workshops at ONGC facilities throughout India
 - Seven pre-feasibility studies to identify major methane emission sources
 - Four on-site methane measurement studies at ONGC production facilities, including one offshore installation
- ONGC continues to work on implementing emissions reduction opportunities

Activities by Country (continued)

- **Italy**
 - Continued with efforts to enact legislation that is complimentary to the Partnership
 - ENI is involved in various pilot studies (e.g., bio-fixation of carbon dioxide using algae) and field activities (e.g., carbon capture and storage)
 - Preparing its country-specific strategic plan

Activities by Country (continued)

■ **Mexico**

- PEMEX continued with efforts to identify and implement cost effective methane emissions reduction projects at its subsidiaries Pemex Gas and Pemex Exploration and Production facilities
- PEMEX is working on a GHG emissions inventory and detailed marginal methane abatement curves covering all methane sources at the country's major oil and gas facilities
- EPA collaborated on one Climate Change - M2M workshop at Pemex Exploration and Production headquarters

■ **Poland**

- GAZ-SYSTEM and EPA are collaborating to assess and identify methane emission reduction project opportunities

Activities by Country (continued)

- **Russia**

- Gazprom, VNIIGAZ and EPA under Methane to Markets hosted a methane emission reduction technology transfer workshop in Moscow

- **Ukraine**

- Cherkasytransgaz continued efforts to implement leak inspection and repair activities at compressors stations and valves to further reduce methane emissions, including measuring and tracking results
- Ukrtransgaz (co-led by Cherkasytransgaz) held the first methane mitigation workshop for all regional natural gas transmission operations
- Ukrtransgaz launched a project to explore options for large-scale system-wide methane mitigation measures

Activities by Country (continued)

- **United States**

- EPA completed translations of technical documents into Chinese. Technical documents also in Russian and Spanish
- Continued collaborative activities in Argentina, Brazil, Canada, China, Ecuador, India, Mexico, Poland, Russia and Ukraine to identify, analyze, promote, and track methane emission reductions from projects
- Worked with Canada on enhancements to the ON TIME Tool
- Completed first draft of the U.S. strategic plan
- Continues to directly engage all U.S. oil and gas companies in the production, processing, transmission and distribution sectors to encourage the identification, measurement and mitigation of methane emissions in their operations

Next Steps

- **Partnership Expo**
 - Identify potential projects to highlight
 - Coordinate with oil and natural gas companies, academic community members, technology manufacturers and/or service providers to encourage attendance

- **Fall Subcommittee Meeting**
 - Possibly Canada

- **Partnership Expo**
 - 2010 in India

Summary and Conclusions

- **Focus on:**
 - Planning for the Partnership Expo
 - Providing ongoing assistance to Partner countries
 - Participate more actively in international talks and agreements to address climate change

- **Questions?**