



Report on the UNECE Project:
**Extrabudgetary project to facilitate financing of CMM
projects in Central & Eastern Europe and the
Commonwealth of Independent States**

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Climate Mitigation Works

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Mine Methane**

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- ◆ Experts and management associated with Krasnogorskaya Mine, Russia
- ◆ Many other experts/officials from UNECE and U.S. EPA, officials from coal companies, institutes, and governments across the region



Overview

- ◆ Purpose of project and scope of work
- ◆ Outcomes
- ◆ Assessment and summary
 - What worked, what didn't and what did we learn?
 - What could ad hoc group do further?



Context

CMM Situation in 2003-2004

- ◆ CMM projects operational and profitable in Australia, Czech Republic, Germany, UK, US
- ◆ Focus shifted to major markets with good growth potential: China, Kazakhstan, Mexico, Poland, Russia, Ukraine
- ◆ Typical barriers continued to limit development
 - Lack of enabling regulatory frameworks
 - Low power and natural gas prices
 - Immature carbon markets
 - Difficult mining conditions
 - Outside of core business for mines
 - Inability to structure finance



Financial Barriers

2003-2004

- ◆ Greater reliance on external financing but limited success
 - Inexperience and little or no training to prepare project documentation suitable to source equity or secure debt in international capital markets
 - Ineffective pitches to investors
- ◆ Very little liquidity in capital markets for 3rd party finance
 - Development bank carbon funds underway but competitive
 - Private banks and institutional investors just stepping in
- ◆ Skepticism of private investors
 - Many first-mover “investors” and developers in reality had limited cash assets or ready access to capital
 - Significant credibility problems



Project Objectives

- ◆ Catalyze CMM project development in the CEE/CIS region building on UNECE's expertise in supporting finance for climate change mitigation
- ◆ Identify 3+ projects for technical support as representative projects
- ◆ Establish a roadmap for financing CMM projects



Project Scope

- ◆ Develop and present bankable documents for 3+ mines
- ◆ Training for document preparation and delivery
- ◆ Convey lessons learned through outreach



Project Design

- ◆ Three year project
- ◆ Funded by U.S. EPA
- ◆ Supported by one CMM expert, one energy finance expert and regional CMM experts
 - Year 1: Russia
 - Year 2: Kazakhstan
 - Year 3: Entire region



Outputs

- ◆ **Website:** <http://www.unece.org/energy/cmm/Welcome.html> Project identification form
- ◆ Criteria for financing CMM projects
- ◆ Business plan template and guidance
- ◆ Project documents
- ◆ Missions to Russia (4), Kazakhstan, Poland, Ukraine
- ◆ Panel discussion at Methane to Markets Expo
- ◆ Workshops (Geneva, Russia (2), Poland, Ukraine)
- ◆ Project Identification Forms for 2 mines (Russia, Kazakhstan)
- ◆ Pre-financing document for 1 mine (Russia)

Mine-Specific Documents

- ◆ PIF - Kazakhstan mining company
 - Never received authorization to post
 - Mining company decided to do in-house
- ◆ PIF – Russian mining company – VAM projects
 - No consensus within company to pursue VAM
- ◆ Pre-Finance Document
 - Krasnogorskaya Mine – Kemerovo Oblast, Russia
 - Completed project document with two options outlined:
 - ◆ Boiler conversion
 - ◆ Power generation
 - “Roadshow” to London identified potential partners



Summary

- ◆ Project workshops well attended and received
- ◆ Three companies expressed interest in collaborating
- ◆ Only one mine project developed finance documents with UNECE

Why these results?

◆ Carbon markets

- ◆ Interest in CMM now, and carbon finance much more available than when project designed in 2003-2004
- ◆ Carbon buyers/investors willing to approach coal companies, not other way around

◆ Structural issues and perceptions

- ◆ While several coal companies expressed interest, their decision-making process didn't match with project's; possible concern over public nature of UNECE process
- ◆ Perception for at least two companies that they could do/manage the project themselves
- ◆ Several mergers/acquisitions of interested coal companies may have reduced corporate ability to focus on lower priority issues like CMM

◆ Project design

- ◆ Limited time spent by project team actually at mines, talking with mine staff and exploring/evaluating project options

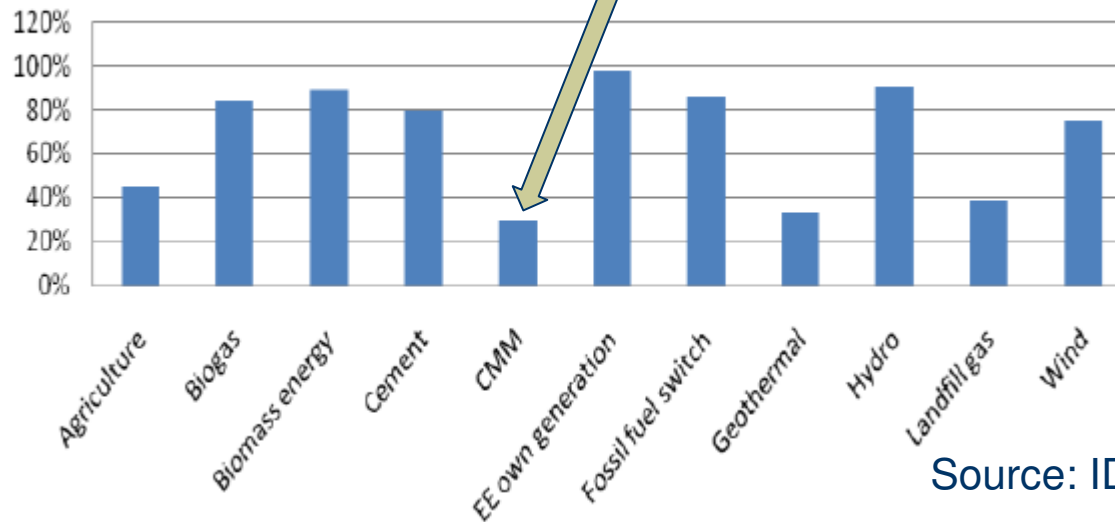


ASSESSMENT & SUMMARY

What remains to be done?

1. Improve delivery of emission reductions in CMM sector
 - In spite of heightened interest, poor record of delivery

Delivery Performance by sector



Source: IDEACarbon, 2008



Industry to do (2):



2. Many projects/mines remain untapped

- While many projects announced, still most CMM still emitted
 - ◆ Remaining emissions at mines with projects (VAM, etc.)
 - ◆ Gaps in what is designed/accomplished at mines (see previous graph)
- Possibly more opportunities with smaller, more local/regional mines and companies

Issues impacting future potential (1)

- ◆ Uncertainties regarding carbon finance (and general financial markets)
 - Post-2012 no treaty
 - Risk of limited credit demand in turn threatening finance
 - Financial markets uncertainties
- ◆ Technological issues
 - Upstream: (often ignored)
 - Producing and transporting safe (sufficient concentration) and usable gas
 - ◆ If safety compromised threatens legitimacy of entire sector for carbon credits
 - Downstream:
 - Keeping engines operating
 - VAM deployment



Issues (2)

- ◆ Corporate priorities and business structures
 - CMM is non-core business
 - But meanwhile several coal companies are working to “do it themselves”
 - Could mines benefit from more focus/help?



Considerations for Ad Hoc Experts Group

- ◆ Market is growing due to intense demand for carbon credits
 - But with a bad track record for delivering promised credits
- ◆ Upstream issues key to getting results
 - Gas drainage/management often major barrier to safe use of gas
- ◆ Good project definition remains barrier to finance
 - Challenges come from business structures/changes and disconnect between technical and corporate staff

Conclusions/suggested next steps for ad hoc group

- ◆ Project brought several useful insights into market barriers
- ◆ Future activities may best focus on:
 - Improved gas drainage and safe management
 - ◆ First step is understanding what is the technical potential for safe gas drainage and transportation
 - ◆ Then identify and work with a few mines to improve drainage/transportation
 - ◆ Showcase potential: requires mines open to this
 - Project execution: improve project delivery. This is tough:
 - ◆ First step is recognizing projects have many technological risks
 - ◆ Second, identify the main risks and outline approaches to minimize these
 - ◆ Ideally, showcase effective implementation at a few different projects
 - Market identification: while potential with big operators is known, discover “second tier”. This is tough:
 - ◆ Has to be information and contacts at the company/mine level, not country-level
 - ◆ “Second tier” includes technical options, most prominent are technologies to harness ventilation air methane
 - ◆ Has to include lots of time working with mine-level experts to identify and develop potential
 - Project finance:
 - All of the above actions would help to identify projects that may be developed for finance facilitated by UNECE

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