



United Nations Economic Commission for Europe (UNECE)

IREED Division, www.unece.org/ie

UNECE Case Studies: Developing Investment Grade Documents for CMM Projects

M2M Partnership Expo

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Format

- Background
- Current Status
- Lessons Learned
- Discussion
- Conclusions



What is the UNECE and Why CMM?

- UNECE
 - 1 of 5 regional commissions
 - Mission is to foster sustained economic growth among its member countries
 - Based in Geneva with 56 member countries
 - CIS/Europe/North America
 - Works closely with other UN bodies/international orgs
- Coal is an important resource for ECE member countries
 - 38% of global coal production
 - 40% of global CMM emissions
 - Many coal industries in the region face significant work-related and public safety risks due to methane
 - Created Ad Hoc Group of Experts on Coal Mine Methane to address key issues among member countries and global coal and CMM industries



UNECE Project on Investment in CMM Sector

- 3-Year project to analyze and address financing issues specific to CMM projects in CIS/CEE region
 - Focus on institutional finance
 - Objectives
 - Develop pipeline of projects
 - Capacity building from lessons learned
 - Catalyze large-scale development
- Provide “free” consulting services
 - Technical assistance to 3-6 CMM projects in CEE/CIS
 - Project identification, optimization and integration
 - Development of first order pre-feasibility studies and business plan
 - Support interface with investment/financial community
- Mines, not developers, targeted for assistance



Why Focus on Finance?

- Project idea originated in 2003 when GHG markets were progressing slowly and access to capital was very difficult
- Many in coal and CMM industries were then unfamiliar with expectations of international financial community and lacked skill set for effective financial engineering
- ECE has prior experience providing similar technical assistance for energy efficiency projects
 - Belief that we could build on financial network and expertise
- Provide larger-scale carbon mitigation projects into pipeline for UNECE Energy Efficiency 21 technical support and public/private investment funds



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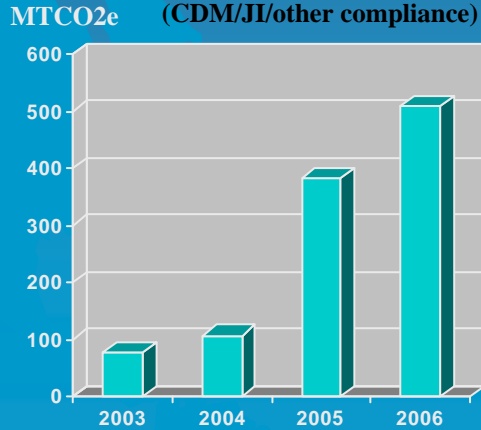
Project Status

- Grant awarded by US EPA in September 2004
- Project start delayed until September 2005 due to staff resource limitations at UNECE
- Active engagement in two countries thus far: Russian Federation and Kazakhstan
- To date, have not proceeded with a specific project
 - Strong initial interest, especially VAM
 - Initial interest from mining sector has not sustained
- Why?

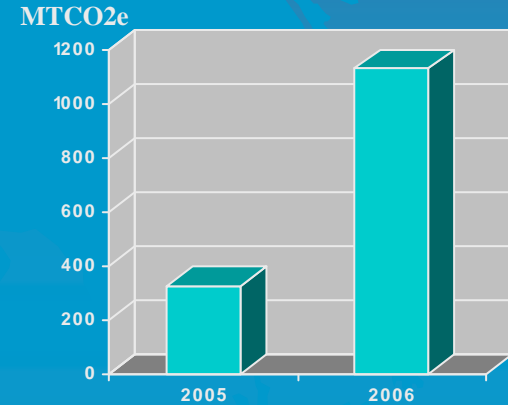


Market Dynamics Have Changed

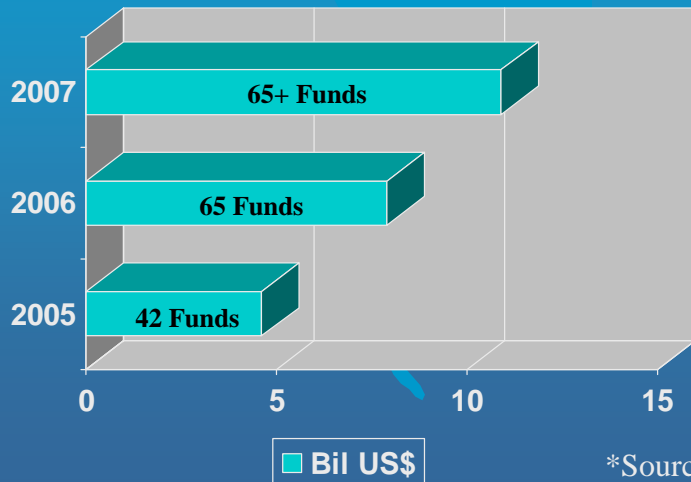
Project-Based Trading
(CDM/JI/other compliance)



Allowance Markets
(primarily EU ETS)



Investment Capital



*Sources: World Bank Carbon Finance Unit, Point Carbon, *Carbon Finance*



Other Factors

- Successful privatization of coal industries in Russian Federation and Kazakhstan
 - Well-capitalized vertically and horizontally integrated industries
 - Sophisticated multi-national corporations with experience in financial markets
 - Financial position and high visibility result in direct contact from prospective investors
- Delayed adoption of Kyoto framework
 - Russian Federation - rules adopted May 2007, but JI applications will only be accepted from January 1, 2008
 - Kazakhstan - has not ratified Kyoto Protocol as of September 2007



- Background
- Current Status
- **Lessons Learned**
 - **General**
 - **Financial**
 - **Project development**
 - **Institutional/organizational**
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CMM - Attractive Asset Class

- Growing global resource base
 - 450 MtCO₂e in 2005 to 530 MtCO₂e in 2020 (US EPA)
- Projects
 - Conventional technologies proven, VAM coming on line
 - Mostly additional
 - Low marginal abatement costs
 - Large carbon mitigation potential
- Strong industry players in key markets
- Mine safety benefits address desire for socially beneficial investments
- *Carbon Finance* Survey of Carbon Fund Managers
 - 88% of fund managers expect CMM supply to increase in next year
 - 38% see dramatic increase - highest of among all project-types



CIS/CEE is Growth Area for CMM

- Attention shifting away from CDM to JI markets
- Stabilizing economies attracting foreign and domestic investment
- Substantial opportunity for CMM
 - Long history of mining and degasification
 - Potential markets exist for gas
 - Several projects already operating
- *Carbon Finance* survey: 64% of carbon fund managers responding believe the region will be a significant growth area



Project Development

- Early rush to the “best” mines and projects, but now seeing interest in more marginal projects
- Before committing resources to VAM mitigation, many waiting to see success of VAM projects at West Cliff Colliery and CSIRO project in China
- Mines view a “CMM project” as one addressing both upstream methane degasification and downstream utilization
 - Mines demanding full package of services
 - Challenging for investors who generally only want to invest in downstream
 - Utilization is revenue producing
 - Investor/developer has some or all control over utilization of CMM, limited or no control over degasification
 - Few upstream experts available - difficulty providing these services



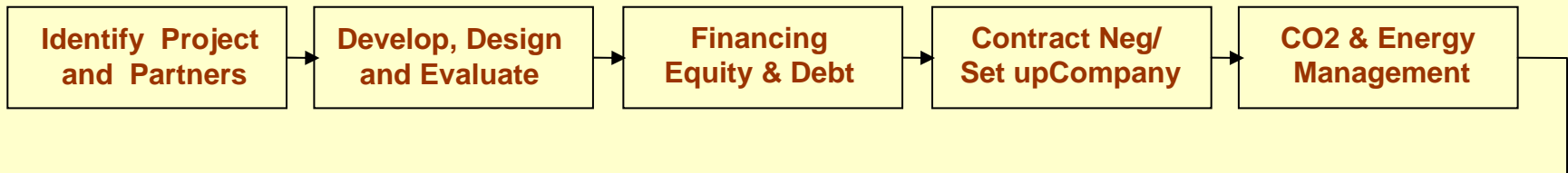
Big Picture Still Missing for Many

- Need Reliable Gas supply
- Appropriately sized project
- Off-take for product and emission reductions
- Adequate capital to ensure proper construction and start-up
- Adequate revenue stream to support operations and regular maintenance
- Applicable licenses and permits
- Qualified, integrated team
 - Ensure all partners are motivated by mutually beneficial incentives to optimize project design and operations
 - Need an effective, knowledgeable and experienced coordinator of all aspects of projects
- **Effective integration with mining operations**
 - **Understand mine plan and degasification operations**
 - **Coordinate closely with mine management, staff**

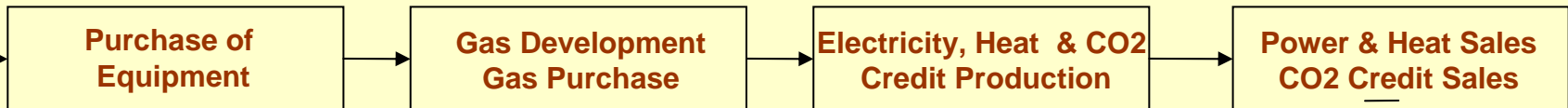


Project Integration

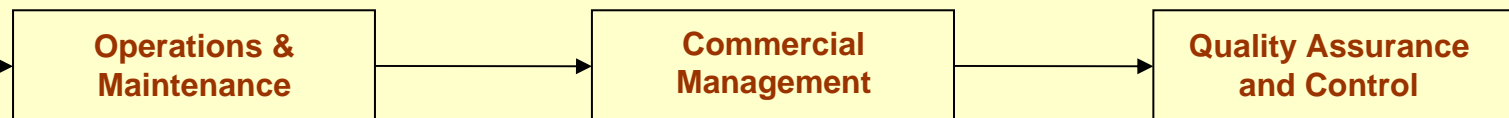
Design Chain “Identify and facilitate opportunities”



Added Value Chain “Build, own, operate”



Support Chain “Maintaining Satisfaction”





Project Finance

- Significant capital available for equity investments
 - Investment banks/funds
 - Bilateral/multilateral financial institutions/programs
 - Private equity
 - Corporate buyers
- Debt can be more challenging
 - Risk of non-delivery
 - ERPAs not collateral
- Alternative financing arrangements coming to market (derivatives, bridge financing, etc)
- No longer clear demarcation between institutional finance and carbon finance



Financial Expertise of Industry Players

- Project developers growing more sophisticated as customers/clients grow more demanding and competition increases
- Large, privatized mining operations have in-house financial expertise
 - **Does not always extend to carbon markets**
- State-owned companies and small private mine owners/operator still lack financial skills



Emission Reduction Purchase Agreements (ERPAs)

- Expect that some projects will not be able to deliver contracted quantities
 - Could see similarity to landfill gas (one report - 38% less delivery than promised)
- Early market confusion for some buyers/aggregators - quantity drained does not necessarily equal avoided emissions
- Some buyers still willing to accept risk of non-delivery if seller makes good-faith effort
- Purchasers increasingly open to smaller volumes
 - 100,000 tonnes (2008-2012)
 - 50,000 tonnes for existing suppliers



Institutional/Organizational Issues

- Inconsistent message within mining companies
 - Financial expertise and corporate strategy concentrated at headquarters
 - Technical expertise at mines
- Growing interest in training to educate regional and mine staff to evaluate CMM potential and prepare bankable documents
 - Greater efficiency
 - Buy-in at all levels of corporate hierarchy
- Must acknowledge that some mining operators place low priority on utilizations without high price signal



Stakeholders View of UNECE Involvement

- Investors/Financial community - positive
 - Neutral role in market stimulation
 - Projects vetted by credible organization
 - UN endorsement is positive for public relations
- Mining companies/project sponsors - Ambivalent
 - Public nature of cooperation difficult
 - Large companies do not believe they need assistance
 - Want more engineering support
 - Do see benefit of positive public image associated with UN
- Governments - generally positive
 - Very supportive of training
 - See UN as another vehicle for supporting mine safety and environmental protection



Thank You!



UNECE United Nations Economic Commission for Europe

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