

**2022 Global Methane, Climate and Clean Air Forum  
Tuesday, 27 September Coal Joint Technical Session  
Issues that CMM/AMM Projects Face (Brainstorming Session Results)**

Legal/Regulatory	Technical	Market	Other
CMM/AMM project developers/hosts often face unhelpful regulatory framework	Project developers have difficulty forecasting (for 6 years or more) local VAM concentration with precision required by financial institutions and carbon crediting agencies	Forecasting the price of carbon credit; lack of regularity of carbon credits	Policymakers and/or env. groups lack awareness that it will take time to transition from coal (particularly, coking coal), and hence, disregard CMM/AMM utilization
Policymakers need data on how the coal sector can contribute to decarbonization so that they can realize the sector's mitigation potential (and develop supporting policies or regulatory frameworks)	Project developers cannot drain gas easily in low permeability coal deposits; it is hard to predict or extract pockets of gas at mines, which also create an explosion or hazard	Coal mining companies/gov'ts focus on increasing coal production (as opposed to methane extraction); CMM/AMM projects might be more risky than beneficial in some countries	Project developers/gov'ts/communities face unclear legacy and responsibility issues if a coal mine goes bankrupt – who takes charge of the project?
Climate mitigation actors/policymakers are not coordinated on their work	Lack of infrastructure/market for captured CMM/AMM	Methane recovery is not always cost-effective, particularly for VAM	Methane capture is a core competency of the coal companies, but not utilization. How do we bridge the gap?
Project developers/coal mines lack clarity on ownership of CMM/AMM; difficult to get access to the rights	In VAM technology, dynamic methane concentration and flow rates translate into big pressure drops, which eat up the net GHG benefit of technology	Financiers shy away from financing CMM mitigation projects (stigma issue), including abandoned mines	High methane concentration seams are in populated areas, so there is difficulty in obtaining right of way for pipelines

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Prescriptive requirements on gas concentration (for safety) create a perverse incentive to dilute gas that could be drained (and venting as VAM)	Dust in VAM required to capture the particulates (minerals melt and increase cost of VAM tech)	Project developers/companies lack access to finance and carbon market, but also expect high return on investments	Coal mining companies perceive methane as a liability, not a resource; lack of coordination among coal industry actors to overcome barriers; stigma keeps actors from strategically planning on transition
There are limited regulations on mine closure and how to close mines to assist with subsequent utilization	Need to destigmatize, show projects can make money, and are technically feasible	Project developers are not aware of the different resources that exist in the carbon market	Project developers/coal mining companies do not have incentives to develop new/creative projects; lack of knowledge re different opportunities
Existing regulations/ administrative processes can create disincentives or create perverse incentives for achieving mitigation; companies/project developers do not have clear regulations to follow when implementing projects	There is need for a roadmap for project development and education about available opportunities	Pricing isn't a driver for project development	Greenwashing creates a risk for more emissions to be captured and used/destroyed; is the full mitigation potential achieved?
In some countries, there are prescriptive requirements for how to drain gas, which result into sub-par (or explosive range) methane concentrations of drained gas	Coal is considered a strategic mineral in some countries, but there is lack of reliable data; in the United States, MSHA destroys data after 10 years after a mine is abandoned	Project developers lack access to reliable measured data to identify projects	Policymakers/env. organizations are not aware of mitigation possibilities from VAM projects
The sector is low on priority list for policymakers			Lack of experts at universities who can teach in depth

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			Relationship between coal industry and environmental orgs is at a standstill
			Project developers are not aware of the different resources that exist, particularly within CMOP and GMI
			Lack of money in coal industry when being forced out of business/going bankrupt – who will provide money for CMM?