

COAL MINE PROJECT OPPORTUNITY

Korba Coalfield

Chattisgarh State, India

OVERVIEW OF COAL MINE PROJECT OPPORTUNITY:

Korba Coalfield is located in the Korba district of Chattisgarh and covers an area of about 530 KM². As per the Geological Survey of India (GSI), it is estimated that a total of 10311 mt reserve of coal is available in Korba Coalfield. The coalfield is characterized by the existence of thick, strippable coal seams suitable for power generation comprising of E, F & G grade coals having reserves of approximately 1 Billion Tonnes.

Open cast mining activities in the Korba Coalfield are being carried out by South Eastern Coalfields Limited (SECL), a subsidiary of Coal India Ltd., which is a government-run company accounting for about 85 percent of India's total coal production. The present production of SECL is 101.15 mt, out of which 73.35 mt is coming from coal mining operations being carried out in Korba coalfield. The CMM project has been proposed in the operating opencast areas of Korba coalfield.

SITE DETAILS:

- Status / Type of Mine: Active / Surface
- Mining Method: Open Cast
- Rank of Coal: High Volatile Bituminous A

TYPE(S) OF ASSISTANCE SOUGHT:

- Technical Assistance, including:
 - Resource Assessments
 - Economic Assessments

Korba Coalfield: Sequence and Seam Attributes

Seam Nomenclature	Thickness Range (m)		Moisture %	Ash %	UVM%
	Seam	Parting			
E&F	9 – 17		5.7 – 8.6	22.6 – 39.9	34.5
		13 – 65			
Upper Kusmunda	21 – 36		4.4 – 7.9	25.1 – 43.2	30.3
		37 – 84			
Lower Kusmunda (Top Section)	19 – 45		3.9 – 7.4	28.3 – 42.2	31.5
		3 – 24			
Lower Kusmunda (Bottom Section)	3 – 16		5.4 – 7.8	24.6 – 38.3	33.7

The gas content of the coal seams has been arrived at by using limited data of direct measurement in some boreholes drilled in the vicinity of CMM block in Korba Coalfield (see table right).

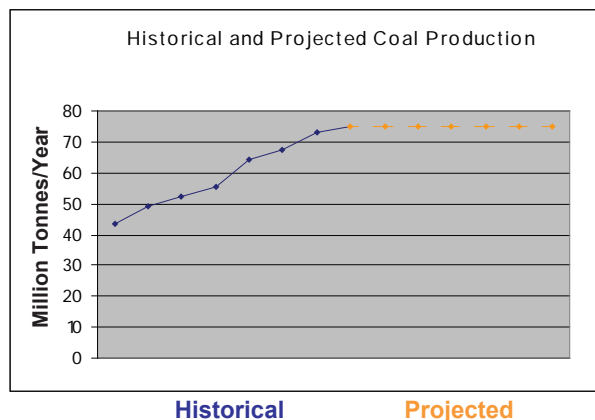
At present there is no system of methane drainage and therefore, there is no utilization of CMM from the project area. There is no existing gas drainage system operational in the operating opencast mines. To reduce the release of methane into the environment from the operating opencast mines of Korba coalfield, this CMM project has been conceived.

Depth (m)	Gas Content (m ³ /tonne)
Up to 150	1.08
150-200	1.72
200-250	1.72-3.62
250-350	1.59-3.58
>350	3.30-4.57

PROJECT DETAILS

The project is expected to start after 7 years from now (including a 2-year development period), by such time the following requisite data would be generated :

- Drilling in 5 Slimholes for direct assessment of gas content, permeability test, petro-physical test etc. has been completed.
- Assessment Report on techno-economic appraisal of the project for its viability will be completed by 2010.
- If found feasible, open bids will be invited for commercial development.



The project envisages pre-drainage of methane before advancement of the faces. The drained methane would be utilized for power generation. In addition to the revenue realized from power generation, the captured methane will also attract additional revenue in terms of CERs (carbon credits).

PROJECTED CAPITAL, OPERATION AND MAINTENANCE COSTS

A project proposal for a feasibility study has been conceived. The estimated cash outlay is \$6.5 million (USD). If found feasible, a bankable project report for degasification synchronized with opencast mining – along with power generation – will be formulated. The total projected implementation costs would be furnished in the project report.

Year	Projected Coal Production (tonnes)	Avg. Depth (m)	Avg. Gas Content (m ³ /tonnes)	Projected Gas Emission (million m ³)	Projected Gas Emission Reduction (million m ³)
2013	75	150-200	1.6	120	72
2015	75	150-200	1.6	120	72
2020	75	200-250	2.0	150	90
2025	75	200-250	2.0	150	90

The current methane liberated per tonne of coal mined has been approximated as 1.1 m³/tonne up to 150m depth. The projected methane liberated per tonne of coal is 1.6 m³/tonne between 150m to 200m and 2 m³/tonne beyond 200 m depth.

With implementation of the proposed CMM project in 2013 and pre-drainage of methane in the project area, the projects emission reductions are provided above. About 60 percent of the emissions are expected to be captured.

MARKET / DEMAND ANALYSIS

The CMM produced after implementation of the Korba coalfield project would have a ready market on account of several existing linked power plants. The produced CMM may be utilized to supplement the needs of these power plants and their expansion.

FOR MORE INFORMATION

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DISCLAIMER: The information and predictions contained within this flyer are based on the data provided by the site owners and operators. The Methane to Markets Partnership cannot take responsibility for the accuracy of this data.