COAL MINE METHANE PROJECT OPPORTUNITY
Parbatpur CMM Project
Electrosteel Casting Ltd
Jharia Coalfield, Jharkhand, India

OVERVIEW OF COAL MINE METHANE PROJECT:

The Parbatpur CMM Project is located in the Parbatur Mine of ECL in the Jharia Coalfield, near Dhanbad, Jharkhand, India. The CMM project covers an area of approximately 8.8 km² and has an estimated gas resource of 5.31 BCM (187.5 Bcf). The project area includes 18 regional coal seams (I-XVIII) of the Barakar formation. Geological studies at the mine determined that the Barakar coal measures may contain up to 80 meters of cumulative thickness at depths between 200 and 1,100 meters. Longwall mining is planned for the upper seams XVI and XV. Pre-degasification of these upper seams is ideal for future mining. The potential for degasification of the virgin seams below (XIV - I) also exists. The coal rank ranges from low to medium volatile bituminous and has a gas content of up to 11m³/t DAF (388 scf/ton). Data dossiers encompassing all details related to geology, mining history, and gas resource have been prepared.

ESTIMATED ANNUAL EMISSION REDUCTIONS: 0.161 MMTCO₂E

PROJECT DETAILS

• Name of Project: Parbatpur CMM Project
• Name of Mine: Parbatpur Underground Mine
• Type of Ownership: Private
• Target coal seams: Planned longwall mined seams and virgin seams below

MINE INFORMATION

• Mine owner: Electrosteel Casting Ltd
• Parent company: Electrosteel Casting Ltd
• Status and type of mine: Active, underground
• Mining Method: Longwall

PROJECT FINANCES

• Assumptions: US$5-$7/Mcf
• Estimated revenue: US$25-30 Million
• Projected capital costs: Approximately US$15 Million
HISTORICAL AND PROJECTED MINE DATA

HISTORICAL COAL PRODUCTION AND METHANE EMISSIONS
This is a virgin coal block and there is no historical coal or methane production to date.

PROJECTED COAL PRODUCTION AND METHANE EMISSIONS

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<tr>
<td>Coal (tonnes/yr)</td>
<td>150,000</td>
<td>220,000</td>
<td>650,000</td>
<td>1,000,000</td>
<td>1,500,000</td>
<td>2,000,000</td>
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<td>Methane (Mm³/yr)</td>
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<td>Emitted from ventilation system(s)</td>
<td>2.038</td>
<td>2.989</td>
<td>8.508</td>
<td>12.650</td>
<td>18.975</td>
<td>25.300</td>
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GREENHOUSE GAS EMISSION REDUCTIONS
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 mine. To reduce the release of methane into the environment from the operating mine and to make future mining safe, this CMM project has been perceived.

TOTAL VOLUME OF METHANE EXPECTED TO BE RECOVERED/UTILIZED

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<td>1.019</td>
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COAL PRODUCTION AND METHANE EMISSION CHARTS

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MARKET ANALYSIS / DEMAND ANALYSIS

The CMM produced after implementation of the Parabatpur CMM Project would have a ready market as it is located close to the developed, industrial area of Bokaro Steel City and Dhanbad. The produced CMM may be utilized in the Bokaro Steel Plant or other steel plants, or in other industries.

TYPE OF ASSISTANCE SOUGHT

Technical Assistance:
- CBM resource assessment in de-stressed coal seams
- Techno-economic evaluations of the project
- Adoption of suitable drilling technology

PROPOSED TECHNOLOGIES

To be adopted after careful examination of existing geo-mining conditions.

FOR MORE INFORMATION, CONTACT:

GM, CBM, CMPDI,
Gondwana Place, Kanke Road
Ranchi- 834008, Jharkhand, India
Tel: +91 651 2230011, Fax: +91 651 2233314
e-mail: gmcbm@cmpdi.co.in, bnprasad54@yahoo.co.in

Electrosteel Castings Limited
Flat No. 801, Uma Shanti Building
Kanke Road, Ranchi-834008
Telephone: 0651-2231636

DISCLAIMER: The information and predictions contained within this poster are based on the data provided by the site owners and operators. The Global Methane Initiative cannot take responsibility for the accuracy of this data.