

India Coal Sector Update to the Session of the Global Methane Initiative (GMI) Coal Mines Subcommittee

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Central Mine Planning & Design Institute



Presentation outline

- India's energy scenario
- Coal: Epitomizes energy in India
- Development of CMM: India's Perspective
- Development of CBM/CMM: CIL/CMPDI's Endeavour
- India CBM/CMM Clearinghouse and other Endeavors
- Conclusion

India's Energy Scenario

- India is one of the fastest growing economy of the World which represents 18% of the World population, with about 21% proportion of the population is living below the poverty line.
- The GDP growth of India is hovering over 7% and is forecasted to increase further.
- India is facing an uphill task to meet ever-increasing demand for energy to sustain the economic growth.
- To meet these need thrust is also on the development of coal based non-conventional energy resources i.e; CBM/CMM/AMM/VAM etc.
- Coal plays a dominant role in sustaining economic growth and energy budget of India

Coal: Epitomizes Energy in India

- India's total Coal reserve is about 319 Billion Tonne
- India is the 3rd largest coal producing country after China and USA with the coal production of about 730.54 Million Tonne (MT) in 2018-19 (Coal India Limited contribution: 607 MT)
- India targeted to increase the Coal production up to 1.0 Billion Tonne by 2024-25.
- Studies suggest that Coal will remain the main source of energy supply in foreseeable future in India.
 - ✓ around 56% share in meeting India's total primary energy requirement;
 - ✓ 72% share in power generation.

Coal: Epitomizes Energy in India

- There is ambitious program to increase coal production in coming years particularly from Underground Mines which will result in enhanced methane emissions due to coal mining operations;
- Capture and gainful utilization of Methane is on priority at Govt and Industry level under Clean Coal Development Initiatives.
- Methane emission from coal mining in India is a matter of concern which is around 1.2 BCM annually as per US EPA estimate.

Development of CMM: India's Perspective

Development of CMM is a priority area both at Govt. and Industry level:

- **Harnessing and gainful utilization is targeted for environmental benefits, mine safety and getting much needed additional source of clean energy;**
- **Ministry of Coal (MoC) has made CMPDI a Nodal Agency for development of CMM in India;**
- **India CMM/CBM Clearinghouse established at CMPDI in association with US EPA & CIL under the aegis of MoC is facilitating commercial development of CMM since 2008;**
- **Govt. of India, Ministry of Coal has permitted exploration and exploitation of Coalbed Methane (CBM) from areas under coal mining lease allotted to Coal India Limited (CIL).**

Development of CMM: India's Perspective

- **The Policy framework for Early Monetization of CBM issued in April, 2017 by Gol which provides marketing and pricing freedom to sell the CBM at Arm's Length Price in domestic market;**
- **In partial modification of CBM Policy'1997, MoP&NG has issued revised notification on 8th May, 2018 regarding consolidated terms & conditions for grant of exploration and exploitation rights to Coal India Limited (CIL) and its subsidiaries from coal bearing areas for which they possess mining lease for coal as it is deemed lease under ORD Act and PNG Rules and grant of PML for CBM development;**
- **In partial medication of Coal Mine Regulation Act(CMR), 2011, Govt. of India issued revised CMR Act,2017, which includes Chapter-XVI "Extraction of Methane from Working Coal Mines or Abandoned Mine".**

CMM Development in BCCL Area, Jharia Coalfield & ECL Area, Raniganj Coalfield

1. Pre-drainage of methane in Moonidih UG mine (BCCL), Jharia Coalfield

- Pre-drainage in Seam XVIT has been planned to recovery methane to enhance safety, coal production and gainfully utilization of gas;
- A Pre-NIT meeting is proposed in last week of November-2019;

2. Jharia CMM/CBM Block (BCCL Area):

- BCCL Board has approved the Project Feasibility Report for a CMM/CBM block of about 24.32Sq. Km for Commercial development having CBM resource about 25.2 BCM;
- It is proposed to develop this block by engaging CBM Developer (CBMD) where CMPDI to implement it;

3. Raniganj CMM/CBM Block (ECL Area):

- ECL Board has approved the Project Feasibility Report for a CMM/CBM block of an area of about 57Sq. Km for commercial development having resource of about 3.93 BCM;
- It is proposed to develop this block by engaging CBM Developer (CBMD) where CMPDI to implement it;

CBM/CMM development in other CIL leasehold/command areas

- A block of an area 60 Sq. km has also delineated in Sohagpur Coalfield under SECL with resource of about 1.07 BCM;
- Potential Block delineation is under progress in North Karanpura Cf, South Karanpura Cf, Bokaro Cf and Jharia Cf under CIL command areas and CIIP assessment has been undertaken by CMPDI;
- CMPDI is also working for prospects of CBM/CMM in North-Eastern region;
- CMPDI-CIL is also exploring possibilities for simultaneous extraction of CMM/CBM and Coal in its command areas;
- Identification of abandoned UG gassy mines in CIL areas has also be undertaken for AMM Project.
- Pre-feasibility Study for AMM in Raniganj Coalfield (ECL Command area), Bokaro Coalfield (CCL Command Area) and Jharia Coalfield (BCCL Command area) and Workshop on Case Study

India CMM/CBM Clearinghouse

- Established under the aegis of US EPA and MoC and is functional at CMPDI (Ranchi) since November, 2008 with an aim of development of CMM/CBM in the country;
- It showcase opportunities of CBM/CMM development in India and facilitate training programs;
- USEPA has extended its support upto 2021;
- Four International Workshops have been organized on the development of coal based non-conventional energy resources in India i.e; CMM/CBM at Ranchi (Jharkhand), India.
- It includes International Workshop on “Optimum Utilization of CMM/CBM in India” organized jointly with GoI, CMPDI, US EPA & GMI on 24th -25th April, 2019.
- Training on Reservoir Simulation for Project personnel and an International Workshop on “Pre-mine drainage” is proposed during January - February, 2020.

Conclusion

- India is continuously making efforts to extract CMM/CBM from its coal mining areas to combat the climate change issues;
- Development of CMM from mining areas will lead future mining safer;
- GAIL is laying gas-pipeline under URJA Ganga Project to complete by December, 2020 which will provide infrastructure to evacuate CBM/CMM Produce for optimum utilization;
- Extraction and Utilization of CMM/CBM resources will bridge the gap between the supply and demand of energy which is environment friendly will contribute towards the country's energy budget;
- Resulting energy supply will be more affordable and sustainable;
- ONGC, IOCL, GAIL and CIL have joined hands together for the development of CBM/CMM;
- India is taking all efforts to make coal mining sustainable to environmental, social and economic dimensions.