

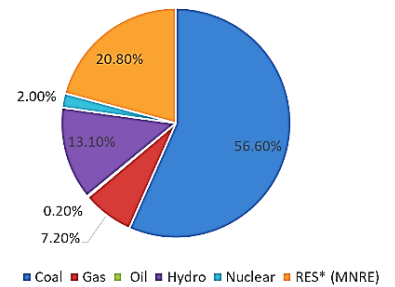


International Workshop on “Optimum Utilization of CMM/CBM in India” 6th – 7th February 2019 Ranchi (Jharkhand) India

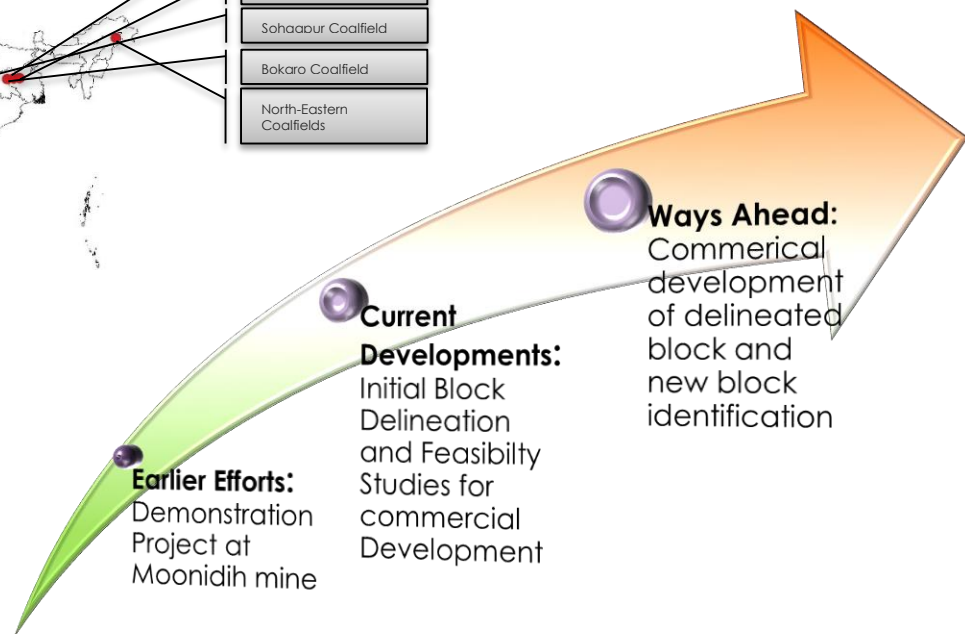
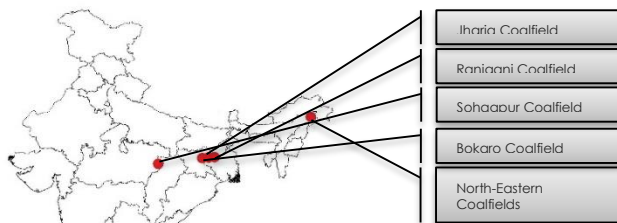
Coal: A primary source of Indian Energy

- Coal is the most important and abundant fossil fuel in India spread over 27 Coalfields;
- The country's industrial heritage was built upon indigenous coal;
- India is the 3rd largest Coal Producer in the World. It accounts for around 55% of the country's energy need;
- Increasing population, expanding economy and a quest for improved quality of life leads to continuously rising energy usage in India;
- Limited reserve potentiality of petroleum & natural gas, eco-conservation restriction on hydel project and geo-political perception of nuclear power, coal to continue dominate India’s energy basket

Total Installed Capacity (As on 31.10.2018)
Source : Central Electricity Authority (CEA)

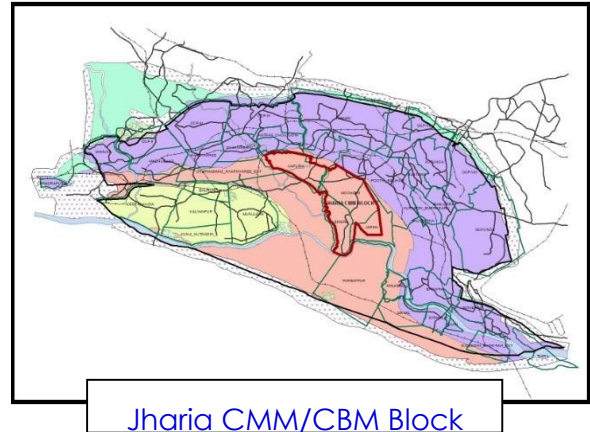


Initiatives of Coal India Ltd and It’s Subsidiaries



Coal India Ltd – CMPDI Initiatives

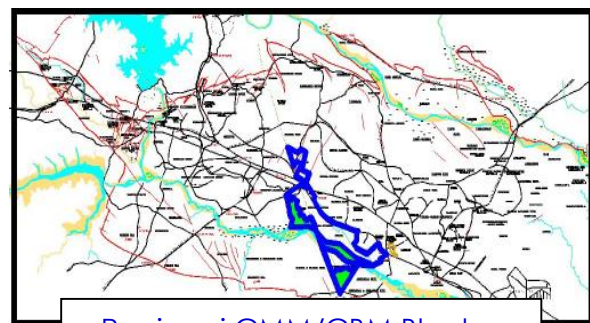
- Government of India given permission to CIL in July, 2015 to explore and exploit CBM from its areas under coal mining lease allotted to CIL and its subsidiaries.
- MoP&NG has issued the revised Gazette notification in May, 2018 on consolidated terms & conditions for grant of exploration and exploitation rights to CIL and its subsidiaries from coal bearing areas for which they possess mining lease for coal in continuation of CBM Policy 1997.
- Project Feasibility Reports for three CBM Projects have been prepared for CBM/CMM extraction from CIL leasehold areas:
 - Jharia CBM Block – I (BCCL), Jharia Coalfield;
 - Pre-drainage of Coal Mine Methane and Utilization from Moonidih UG Mine (BCCL), Jharia Coalfield;
 - Raniganj CBM Block – I (ECL), Raniganj Coalfield.



Jharia CMM/CBM Block

Upcoming Projects:

- East Bokaro CBM Block (CCL), East Bokaro Coalfield
- Sohagpur CBM Block (SECL), Sohagpur Coalfield
- These will be the maiden project of its kind in the country under the active mining leasehold areas of Coal India Limited.



Raniganj CMM/CBM Block

Earlier Efforts

- A demonstration project on “Coalbed Methane Recovery & Commercial Utilization Project” on behalf of Ministry of Coal, funded by GEF/UNDP-GoI successfully implemented in Jharia coalfield which proved the efficacy of the technology for extraction and utilization in Indian geo-mining condition.

Ways ahead

CMPDI-CIL is looking in prospects for future development of CMM/CBM/AMM and identified following areas:

- Jharia CBM Block – II (BCCL), Jharia Coalfield;
- Jharia CBM Block – III (BCCL), Jharia Coalfield;
- Assam CBM Block (NECFs Area), Assam Coalfield

Global Methane Initiatives - India CBM/CBM Clearinghouse

Global Methane Initiatives (GMI) is the only international effort specifically target to methane abatement, recovery and use in association with partner member countries. GMI is a public-private initiative creates an international platform to build capacity, development methane abatement strategies, engage in technology transfer, and remove political and economic barriers towards project development for emissions reduction in partner countries through international cooperation.

In pursuant to a Govt. level understanding between Ministry of Coal (MoC) and United States Environmental Protection Agency (US EPA) a MoU which was signed in 2006 between the Govt. of USA and India for the establishment of “**India CBM/CMM Clearinghouse**” in India which is functional at CMPDI since November, 2008 with the objectives of:

- Promoting CBM/CMM industry in India;
- Being public face of CBM/CMM industry in India through its communication and outreach efforts;
- Being Initial point of contact for foreign & domestic investors.

About the Workshop

Coal India Ltd. and its subsidiaries are eagerly looking for extraction of their untapped methane resources from coal under their leasehold areas towards methane abatement and to reduce GHG emissions. This workshop will discuss the pressing issues related to challenges in optimum extraction and utilization of CMM/CBM from coal mines to mitigate methane, enhance safety & production from gassy mine and showcase the opportunities through development of CMM & CBM in coal mining areas.

The 2 days International Workshop on “**Optimum Utilization of CMM/CBM in India**” is scheduled on **6th – 7th February, 2019** at Hotel Radisson Blu, **Ranchi** (Jharkhand) India which is co-hosted by Central Mine Planning & Design Institute Ltd (**CMPDI**) - Coal India Limited (CIL) and United States Environmental Protection Agency (**U S EPA**) - Global Methane Initiative (GMI) under aegis of Government of India - Ministry of Coal (GoI-MoC).

The Workshop will be attended by top government officials, technical experts, CBM project operators, scholars and academicians, research organizations in the related field and will feature deliberations on policy issues, emerging technologies, operational situation, research trends, opportunities and challenges.

The workshop will

- ✓ Show a path for technological and operational ways ahead;
- ✓ Promote development of CMM/CBM as a clean energy fuel under Global Methane Initiatives;
- ✓ Provide a platform for interaction between national/international experts, policy makers, project operators in the field of coal based unconventional energy resources.

Participation: Prior registration & Invitation

Why to attend

The workshop will provide a platform to ponder over the issues and challenges with the development and optimum extract action and utilization of Coal Mine Methane (CMM)/ Coalbed Methane (CBM)/ Abandoned Mine Methane (AMM) and existing opportunities which can be optimally utilized for expeditious development of these resources under Indian mining condition through sharing of views/information from government, industry and academicians.

Host City-Ranchi

A land blessed by queen nature with lovely, dark, green and deep woods, the azure blue sky, hills and bubbling streams that is the mineral rich State of Jharkhand in India. Ranchi the state capital of Jharkhand and known as a 'city of waterfalls'. It has an elevation of about 630 metres from the sea level and possesses a hilly topography complimented by dense tropical forests. Ranchi has a subtropical climate and generally experiences a pleasant climate throughout the year. The month of February will witness the transition from chilling winters to sweet warm spring.

Birsa Munda Airport at Ranchi (IXR) is well connected by daily flights from India's metropolitan cities: Delhi (DEL), Kolkata (CCU) and Mumbai (BOM). Ranchi is also well-connected with major Indian cities through a network of road and railways.

Whom to Contact

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DRAFT PROPOSED SESSIONS

International Workshop on Optimum Utilization of CMM/CBM in India

6th – 7th February 2019

Ranchi (Jharkhand) India

Venue: Radisson Blu, Ranchi - 834001 (Jharkhand) India

6 th February, 2019		
TIME	SESSION	SPEAKER(S)
10:00 – 10:30	Registration	
10:30 – 11:30	Inaugural Session	Gol – MoC, GMI – USEPA Coal India Limited & its Subsidiaries DGMS, DGH, ONGC, IOCL, GAIL, GSI,
11:30 – 12:00 Noon	Coffee Break	
12:00 – 12:30	Promoting CMM Project Development through the Global Methane Initiative	Cate Hight , U.S. Environmental Protection Agency (US EPA)
12:30 – 13:00	Government of India-Central Mine Planning & Design Institute-Coal India Ltd & GMI/USEPA Joint Efforts for CBM/CMM Projects Development	Shekhar Saran , Co-chairman, GMI Coal Sub-committee / CMPDI-CIL
13:00 – 14:00	Lunch	
14:00 – 16:00	Technical Session – I Prospects for CMM/CBM in India and Opportunity for simultaneous extraction for development as Catalysts	CMPDI/CIL Speaker: <i>Overview of India's CMM/CBM Resources</i> (20 min) MoC / DGH Speakers: <i>Policy Developments to Encourage CMM/CBM Production in India (discuss the removal of price controls, awarding of CBM rights to CIL in coal mining areas, contract terms, etc.)</i> (20 min) BCCL/ECL Speaker: <i>Plans for developing CBM/CMM in existing coal lease blocks in the Raniganj and Jharia coalfields</i> (30 min) Ray Pilcher, Raven Ridge: <i>Case studies in Simultaneous extraction of Gas and Coal</i> (30 min)
16:00 – 16:30	Coffee Break	
16:30 – 18.00	Technical Session - II Techniques in Pre-mining Drainage	Dan Brunner, REI: <i>Overview of In-mine directional drilling technology</i> (30 min) BCCL Representative: <i>Plans for implementing in-mine directional drilling technique at the Moonidih UG Mine.</i> (30 min) Jon Kelafant, ARI: <i>Overview of Surface-based technologies for pre-mine drainage</i> (30 min)
19:00 – 21:00	Networking Dinner	



7th February, 2019

TIME	SESSION	SPEAKER(S)
10:00 – 11:30	Technical Session - III Recovery & Utilization of CMM/AMM/CBM	GAIL Representative: Pipeline options for CMM/CBM production (30 min) Neil Butler, HEL: Power generation options for CMM/CBM production (30 min) Sebastian Napieraj, JSW: CMM for LNG Production and Gas-fired Chillers (30 min)
11:30 – 12:00	Coffee Break	
12:00 – 13:30	Technical Session - IV Efforts made for the Development of CMM/CBM in India	ONGC/CIL Representative: Efforts made and accomplishment. (20 min) Various Company Representatives: Overview of Current CBM Production Projects (15 min/speaker) EOL: Raniganj East Project RIL: Sohagpur Project GEECL: Raniganj South Project Prabha Energy: N. Karanpura Project
13:30 – 14:30	Networking Lunch	
14:30 – 16:00	Technical Session - IV AMM Development	CMPDI/CIL Representative: Potential for AMM Development in India (20 min) Mike Cote, Ruby Canyon: Methodology for estimating AMM resources (20 min) Clemens Backhaus, Fraunhofer Institute: German case studies in AMM project development (20 min) Neil Butler, HEL: British case studies in AMM project development (20 min)
16.00 – 17:30	Roundtable Discussion on Problems Encountered and Possible Solutions Way forward in India	
17:30 – 18.30	Valedictory Session	
18:30 -	High Tea and Departure	