

# Sustainable development of Coal and CMM in India

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**Ministry of Coal,  
Govt of India**



**CMPDI**



**UNECE**



# Presentation outline

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- Coal: Epitomizes energy in India
- Sustainable Credential of Coal
- 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

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- India is one of the fastest growing economy of the World and is home of about 18% of the World population, with about 22% proportion of the population is living below the poverty line.
- The GDP growth of India is hovering over 7% and is forecasted to increase around 10%.
- 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

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- India's total Coal reserve is about 309 Billion Tonne
- India is the 3<sup>rd</sup> largest coal producing country after China and USA with the coal production of about 638 Million Tonne in 2015-16 (Coal India Limited contribution 538.75 MT)
- It is targeted to increase the Coal production up to 1.5 Billion Tonne by 2020.
- Studies suggest that Coal will remain the main source of energy supply in foreseeable future in India.
  - ✓ around 53% share in meeting India's total primary energy requirement
  - ✓ 67% share in power generation

# Coal: Epitomizes Energy in India ....

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

# Sustainable Credential of Coal

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- **Sustainability in mining involves at least the following dimensions;**
  - **The Environmental dimension: the sustainability of the natural environment and the stock of natural resources;**
  - **The Social dimension: Social and cultural sustainability, what relates both to questions of distribution of benefits and costs of mining, and of process, that refers to how decisions are made and how all stakeholders are involved in decision-making;**
  - **The Economic dimension: Economic sustainability of human living standards.**

# Sustainable Credential of Coal..

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**In 2012 UN Conference on Sustainable Development observed:**

- **that mining industries are important to all countries with mineral resources, in particular developing countries;**
- **that mining offers the opportunity to catalyze broad-based economic development, reduce poverty and assist countries in meeting internationally agreed development goals;**
- **that mining activities should maximize social and economic benefits, as well as effectively address negative environmental and social impacts;**
- **that mining including Coal has a great role to play for a developing economy like that of India.**

# Sustainable Credential of Coal..

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**Coal India Limited undertake following to promote sustainable development :**

- **adopt World class eco-friendly mining technologies**
- **conserve natural resources by reducing, reusing, recycling, redefining and replacing**
- **neutralize the effect of mining through appropriate mitigative measures**
- **create income generation avenues/skill development**
- **ensure society a better quality of life by providing basic infrastructure and management of services like water, health care etc.**
- **strive to conduct the business in an ethical and transparent manner**

# Sustainable Credential of Coal..

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**For the sustainable coal mining we practice:**

- environmental and forestry clearance of projects and undergoes through public consultation process;
- Implementation of appropriate environmental management practices and conducts routine environmental monitoring;
- publication of annual sustainability report;

**Coal India Limited is also signatory to Global Compact an initiative coordinated by the UN.**

# Development of CMM: India's Perspective

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**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 CBM/CMM Clearinghouse established at CMPDI under the aegis of US EPA and 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: CIL/CMPDI's Endeavor

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- A demonstration project for harnessing and utilization of CMM has been successfully implemented at Moonidih Mine of BCCL under UNDP/GEF/GoI funding, proving efficacy of the process in Indian geo-mining condition;
- Implementing commercial CBM Projects in Jharia CBM Block and Raniganj CBM Block allotted to CIL-ONGC consortium;
- CIL and its subsidiaries are taking joint efforts for commercial development of CMM in its mining leasehold areas;
- Initially Raniganj Cf and Jharia Cf the two potential Indian coalfields have been taken for the purpose.

# India CMM/CBM Clearinghouse

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- 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;
- It facilitate training programs;
- It has organized an International workshop on “Development of Non-conventional Energy resources in India” at CMPDI, Ranchi (Jharkhand), India on 12<sup>th</sup> -13<sup>th</sup> November, 2013 where issues for expediting commercial development of CMM in India was deliberated.
- It extended all technical support in organizing SAARC Training Workshop on “Experience Sharing on Coalbed Methane, Underground Coal Gasification and Coal Extraction Methodology” held on 26<sup>th</sup> – 27<sup>th</sup> November, 2015 at New Delhi.

# Conclusion

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- **Country is continuously making efforts to extract CMM from its coal mining areas to combat the climate change issues;**
- **The 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;**
- **Development of CMM from mining areas will lead future mining safer;**
- **Resulting energy supply will be more affordable and sustainable;**
- **We are taking all efforts to make coal mining sustainable to environmental, social and economic dimensions.**

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# Thank You

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