

## Exploring Alternative Energy Sources

The Government has taken the following initiatives for the development of Coal Bed Methane (CBM):

- i. To harness CBM potential in the country, the Government of India formulated CBM Policy in 1997, wherein CBM being Natural Gas is explored and exploited under the provisions of the Oil Fields (Regulation and Development) Act 1948 (ORD Act 1948) and Petroleum & Natural Gas Rules 1959 (P&NG Rules 1959) administered by Ministry of Petroleum & Natural Gas (MoPNG).
- ii. A Memorandum of Understanding (MoU) was signed between the Ministry of Coal (MoC) and the MoPNG, to act in a cooperative manner for the development of CBM. As per the policy, the MoPNG became the Administrative Ministry and Directorate General of Hydrocarbons (DGH) was made the nodal agency for the development of CBM in the country. MoPNG in consultation with the Ministry of Coal (MoC) identified and offered CBM Blocks located in coal-bearing areas.
- iii. At present total, 15 CBM Blocks are active. Out of these 15 Blocks, 6 are in the production stage, 2 are in the development stage and 7 are in the exploration stage.
- iv. Additionally, Bharat Coking Coal Limited (BCCL) has delineated Jharia CBM Block-I within the existing leasehold area for coal mining in Jharia Coalfield. The block is in the exploration stage.

Regarding Underground Coal Gasification (UCG), a pilot R&D project has been undertaken, for implementation in two phases, to establish UCG

technology in Indian geological conditions at Kasta (West) coal block, Jamtara District in Jharkhand. Presently during Phase-I, project activity is being carried out for Site Characterization and Plant site selection.

The Government has taken following measures to address environmental concerns with coal mining, particularly regarding reforestation efforts and compliance with legal regulations:

- For opening a new mine, prior Environmental Clearance (EC) is obtained from the Ministry of Environment, Forests & Climate Change (MoEF&CC) under Environment (Protection) Act & Rules, 1986, EIA Notification, 2006 and subsequent amendments. The mines are operated complying with the EC conditions thereby ensuring environment sustainability.
- In compliance with the Van (Sanrakshan evamSamvardhan) Adhiniyam, 1980, prior Forestry Clearance is also obtained from MoEF&CC, in case of projects involving forest land.
- In case of Expansion Projects (for enhancement in Production Capacity and / or land area) prior Environmental Clearance is obtained from MoEF&CC under Environment (Protection) Act & Rules, 1986, EIA Notification, 2006 and subsequent amendments.
- After receipt of EC, Consent to Establish (CTE) and Consent to Operate (CTO) are also obtained from respective State Pollution Control Boards under Air (Prevention & Control of Pollution) Act,1981 and Water (Prevention & Control of Pollution) Act,1974.
- During implementation of the project, Six-monthly Environmental Compliance Reports against the stipulated EC conditions are submitted to MoEF&CC.

- In compliance of the EC/ CTE/ CTO conditions, regular environmental monitoring with respect to ambient air quality, effluent quality, noise level monitoring and ground water (both levels and quality) are monitored and reports are submitted to MoEF&CC / State Pollution Control Boards (SPCBs) / Central Ground Water Board (CGWB).
- In compliance with the statute, Annual Environmental (Audit) Statement for the preceding financial year for each operating mine is submitted to respective SPCB on or before 30th September every year.
- In compliance of EC and Consent conditions, various pollution control measures and environment sustainability measures are undertaken which are regularly augmented / strengthened.
- Tree Plantation is done around the source of air pollution like mine, infrastructure and roads to reduce air pollution; Green belt has been provided around the mine as well as residential colony for noise attenuation. Avenue plantation i.e. plantation on the OB dumps, plantation around mines, residential colonies, and available land is undertaken in existing as well as new projects.
- Compensatory Afforestation (CA) as per the provisions Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 is complied with and necessary funds deposited in the CAMPA account for CA, Soil and moisture conservation measures, plantation in safety zone etc. Regular monitoring of land reclamation is also carried out through remote sensing techniques (Satellite imagery).
- The mine closure plan is an integral part of the project report for Coal mines. The goal is to achieve its coal production target sustainably

and ensure land usage for future generations after final closure of the mine.

The Union Government is in collaboration with the coal-producing States to enhance coal availability and ensure an uninterrupted power supply to all States. To cater to the domestic demand, Government has formulated and finalized a long-term production roadmap, wherein coal production of 1.5 BillionTonnes by 2029-30 has been envisaged with commensurate offtake. With the increase in production and offtake, the Government intends to fulfill most of the domestic demand of the Power Sector.

*Reference: PIB*